

Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	TFD	Tidal Flat Deposits	Clay and Silt	Not Supplied - Holocene
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	RTDU	River Terrace Deposits (Undifferentiated)	Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	PNG	Penarth Group	Mudstone	Not Supplied - Rhaetian
	BLI	Blue Lias Formation	Limestone and Mudstone, Interbedded	Not Supplied - Rhaetian
	MMG	Mercia Mudstone Group	Mudstone	Not Supplied - Early Triassic
	SMG	St Maughans Formation	Argillaceous Rocks and [Subequal/Subordinate] Sandstone, Interbedded	Not Supplied - Early Devonian
	SMG	St Maughans Formation	Sandstone	Not Supplied - Early Devonian
	RG	Raglan Mudstone Formation	Mudstone and Sandstone, Interbedded	Not Supplied - Pridoli
	RG	Raglan Mudstone Formation	Sandstone	Not Supplied - Pridoli
	BFLS	Bishop's Frome Limestone Member	Silicate-Conglomerate, Calcite-Cemented (Calcrete)	Not Supplied - Silurian
		Faults		



Geology 1:50,000 Maps

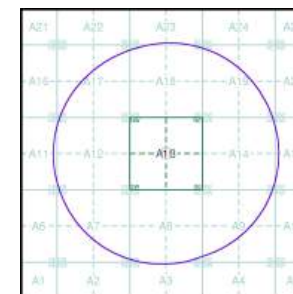
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	249
Map Name:	Newport
Map Date:	1969
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

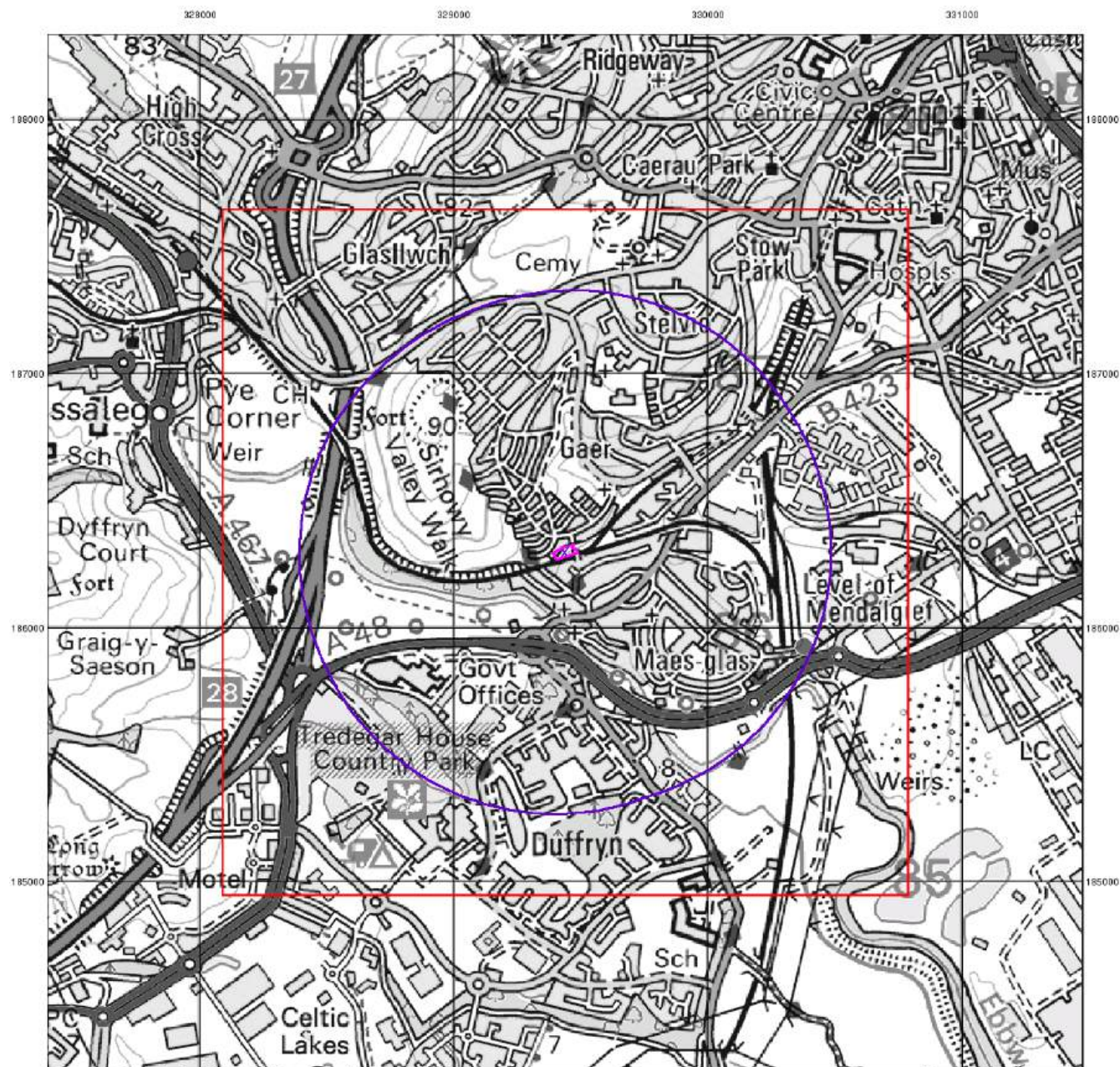
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Customer Reference:	16204 - Marayat Walk
National Grid Reference:	329440, 186300
Slice:	A
Site Area (Ha):	0.29
Search Buffer (m):	1000

Site Details:

Marayat Walk, Newport



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Artificial Ground and Landslip

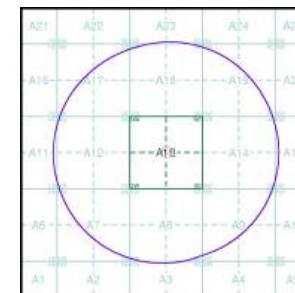
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number: 247770696_1_1
 Customer Reference: 16204 - Marayat Walk
 National Grid Reference: 329440, 186300
 Slice: A
 Site Area (Ha): 0.29
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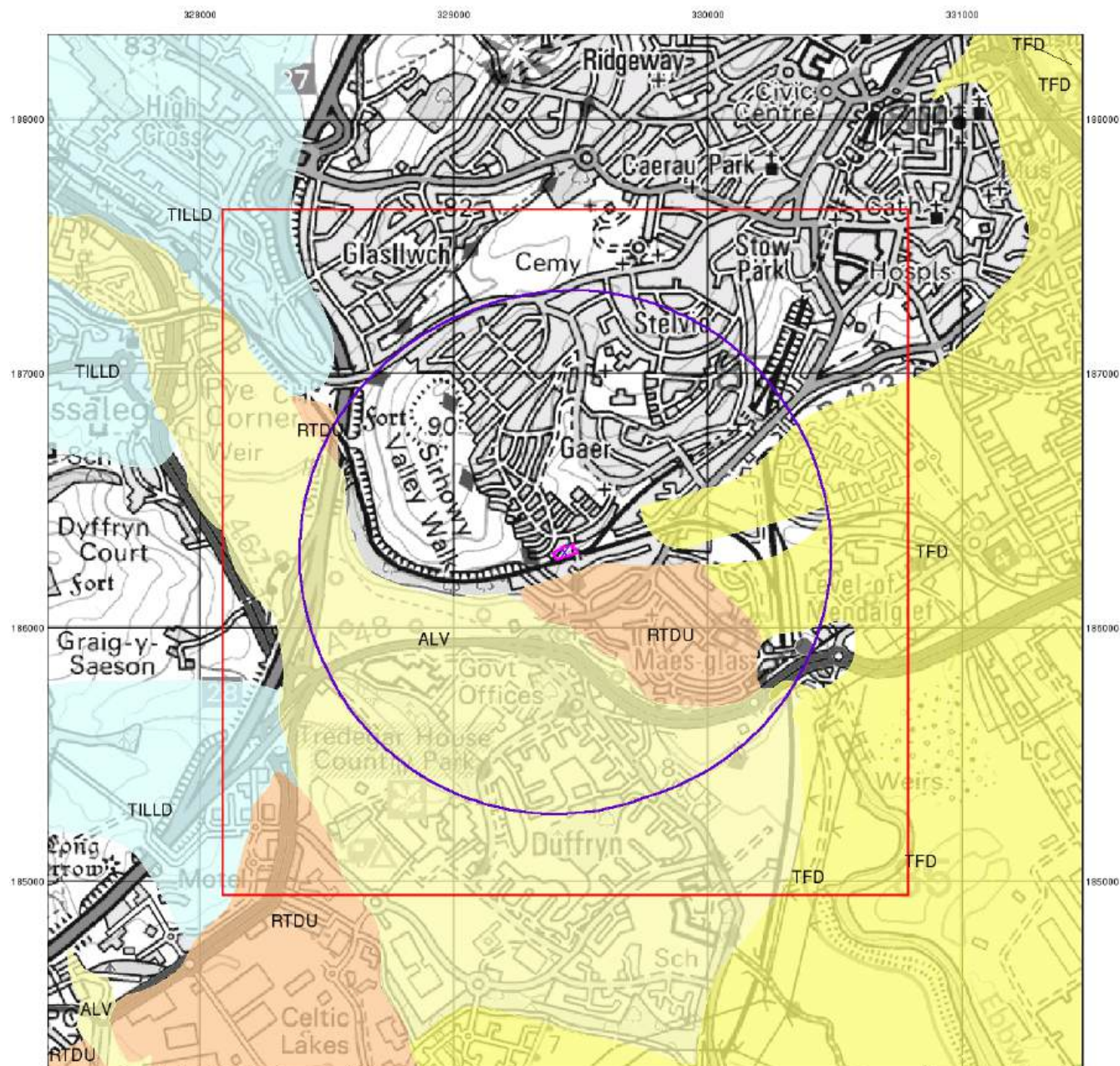
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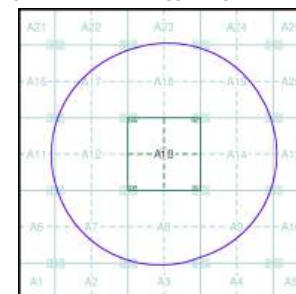
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

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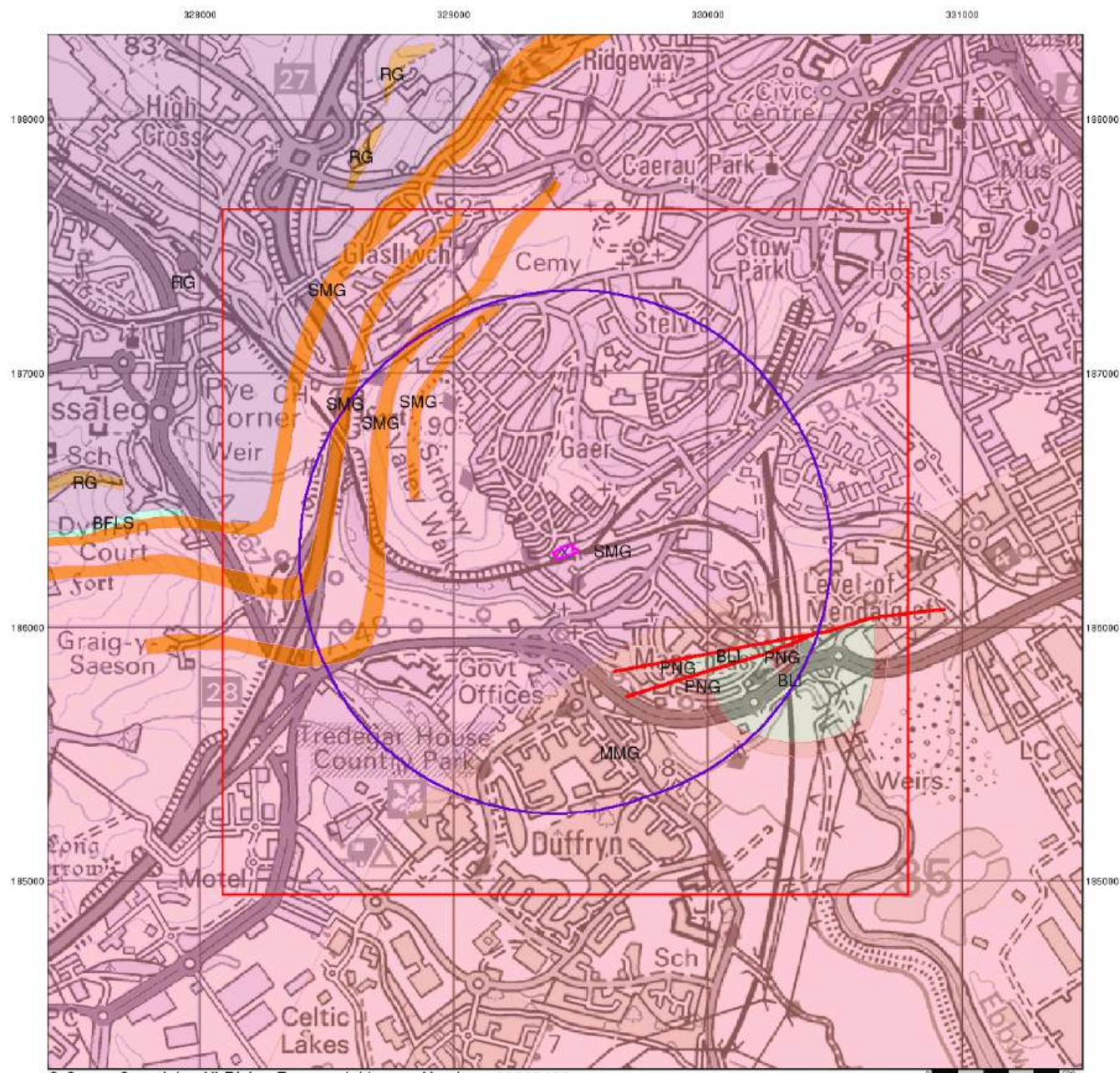
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Bedrock and Faults

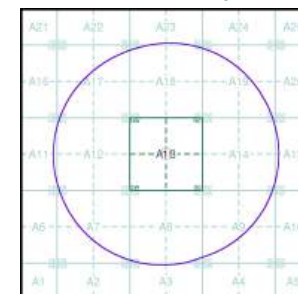
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



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Site Details:

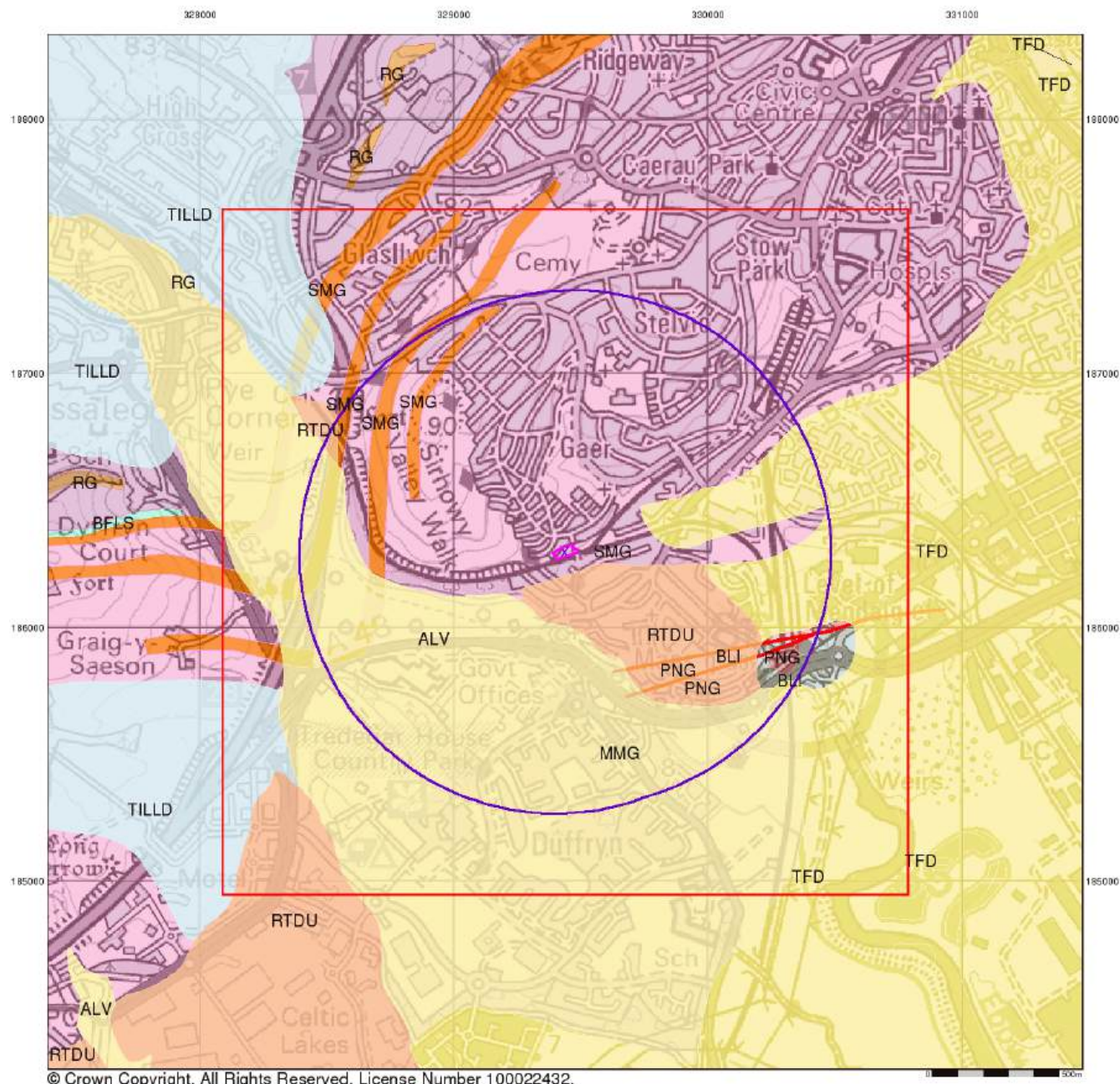
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Page 4 of 5



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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

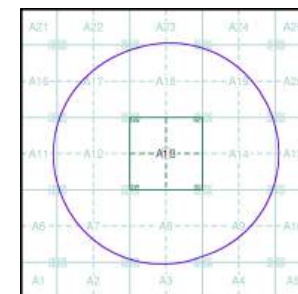
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

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Kingsley Dunham Centre
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NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

Order Number: 247770696_1_1
Customer Reference: 16204 - Marayat Walk
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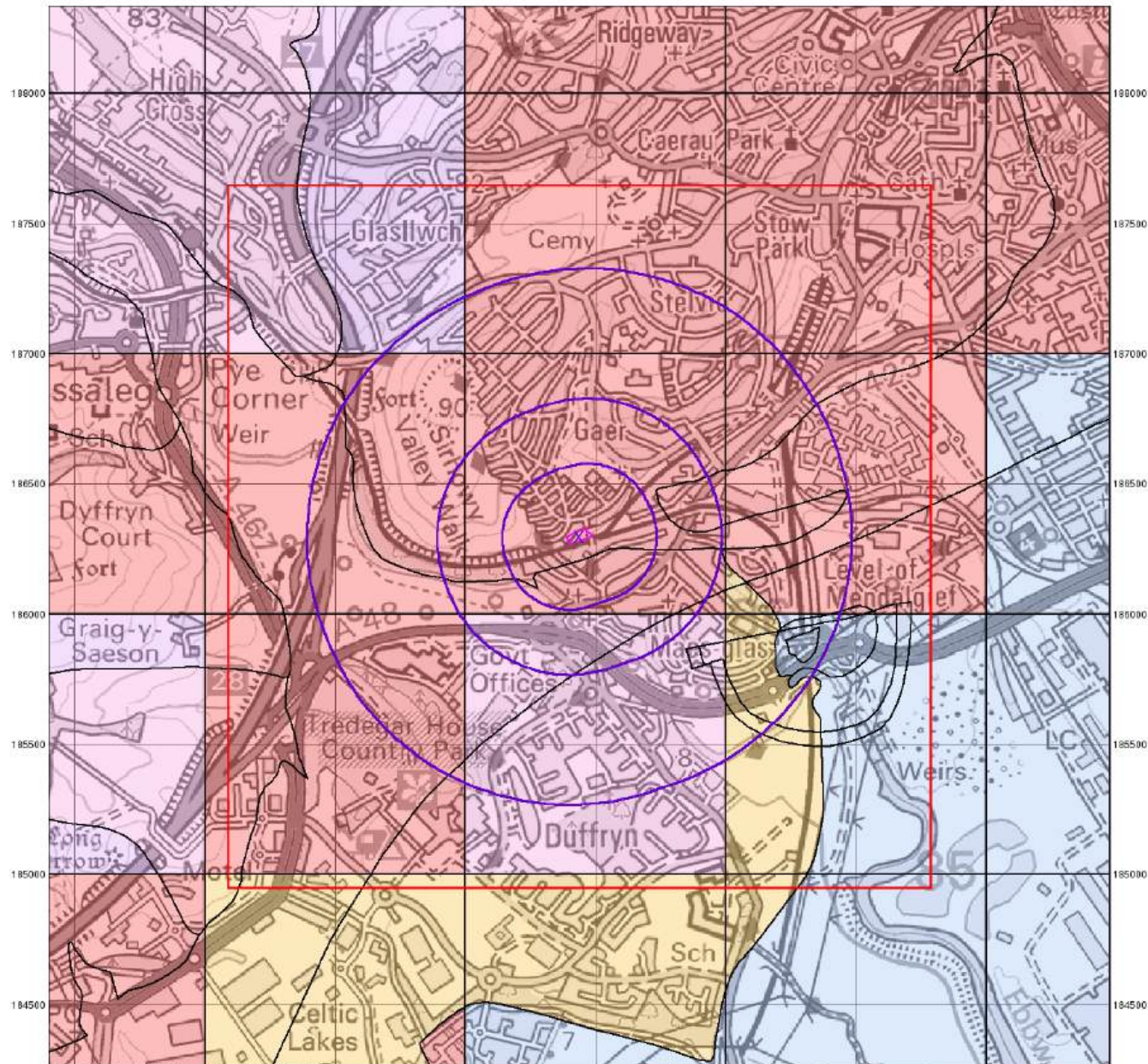
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327500 328000 328500 329000 329500 330000 330500 331000



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Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Bedrock Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

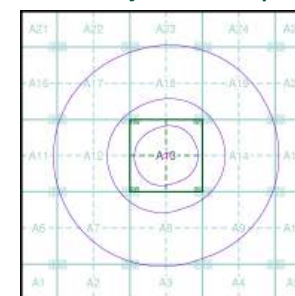
Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

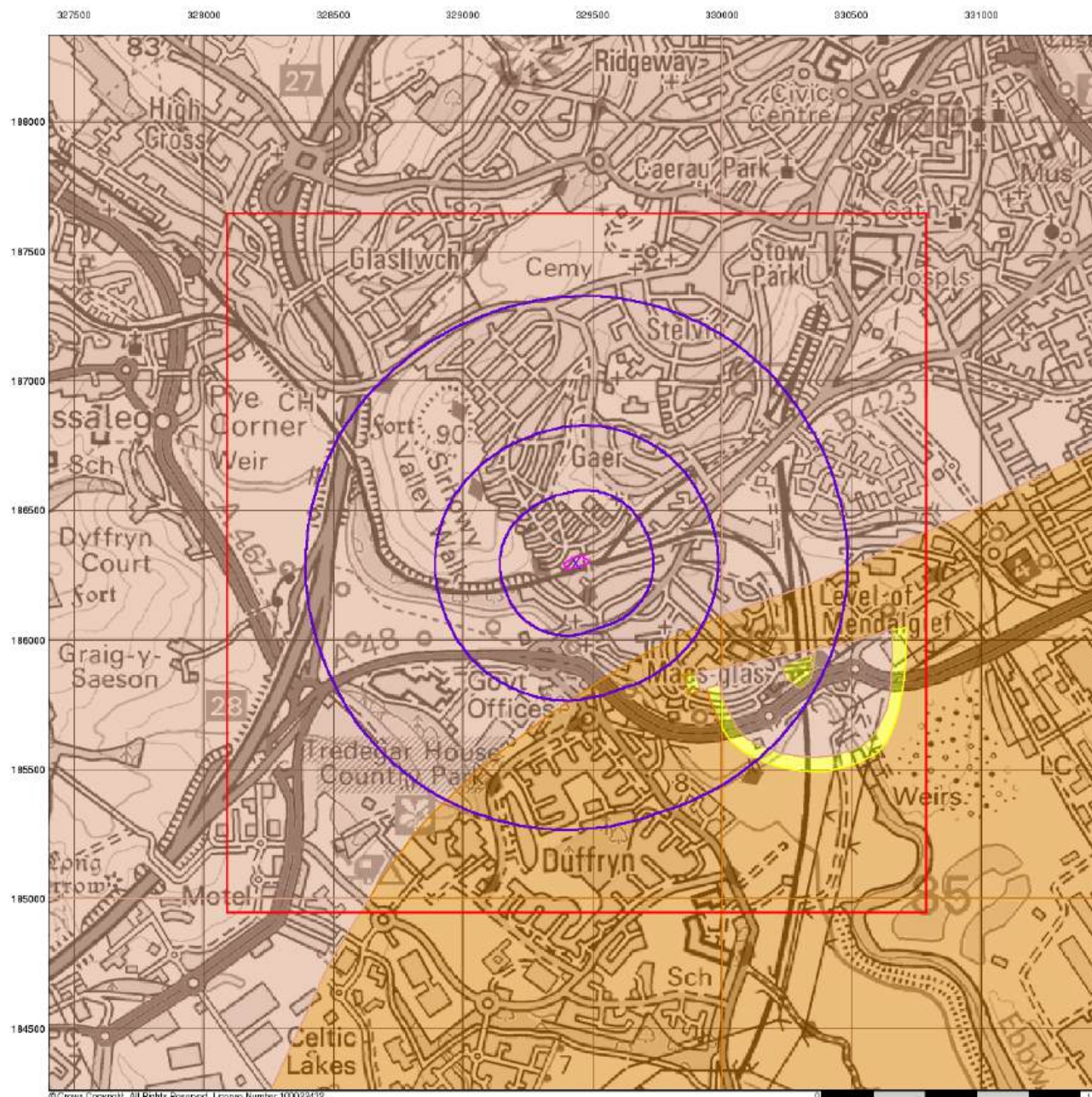
Order Number: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
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 Slice: A
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Site Details

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Landmark
 INFORMATION GROUP

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Bedrock Aquifer Designation

General

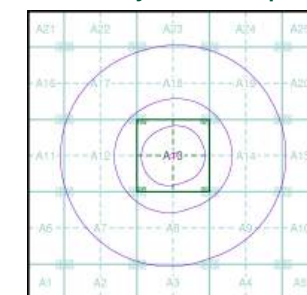
- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

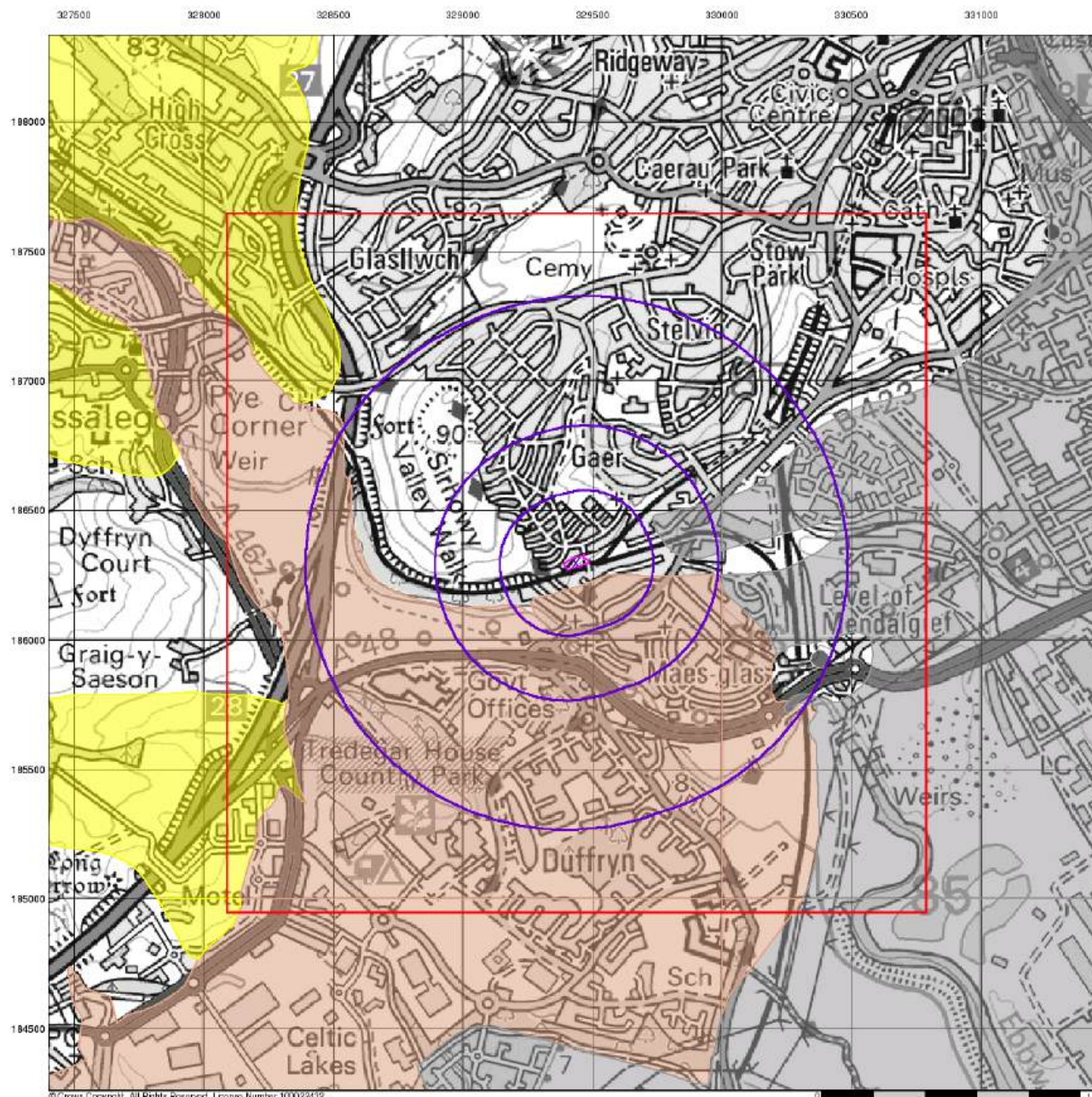
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 National Grid Reference: 329440, 186300
 Slice: A
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Superficial Aquifer Designation

General

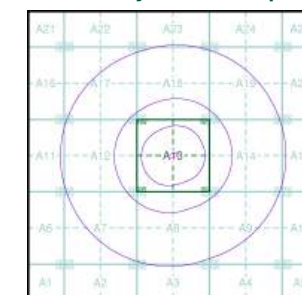
- ◆ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- B Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

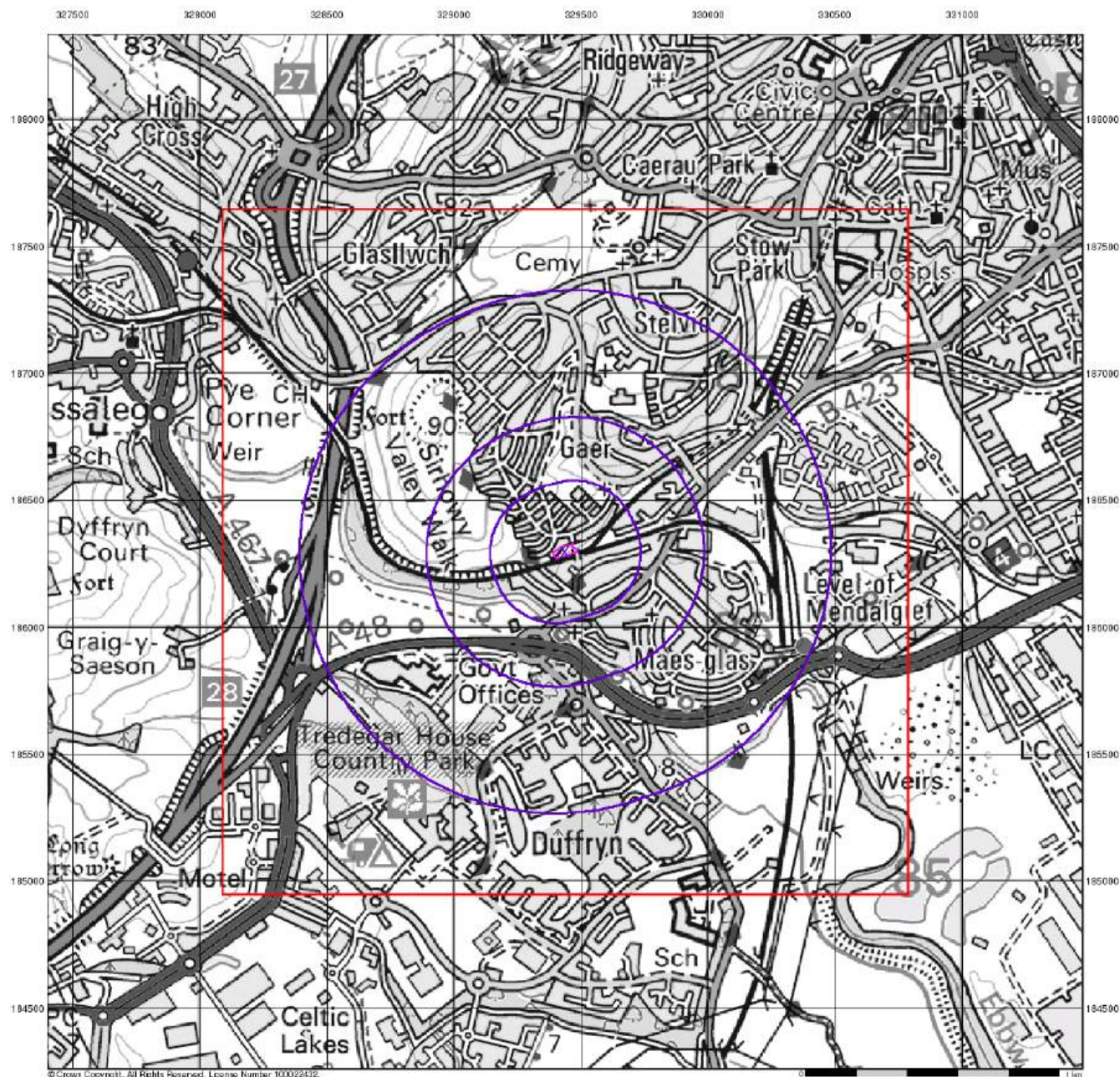
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Source Protection Zones

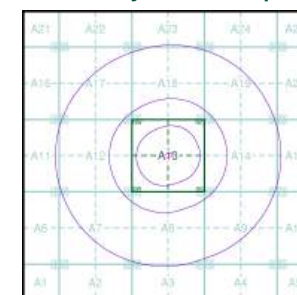
General

- ◊ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- B Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- ▨ Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- ▨ Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- ▨ Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



Order Details

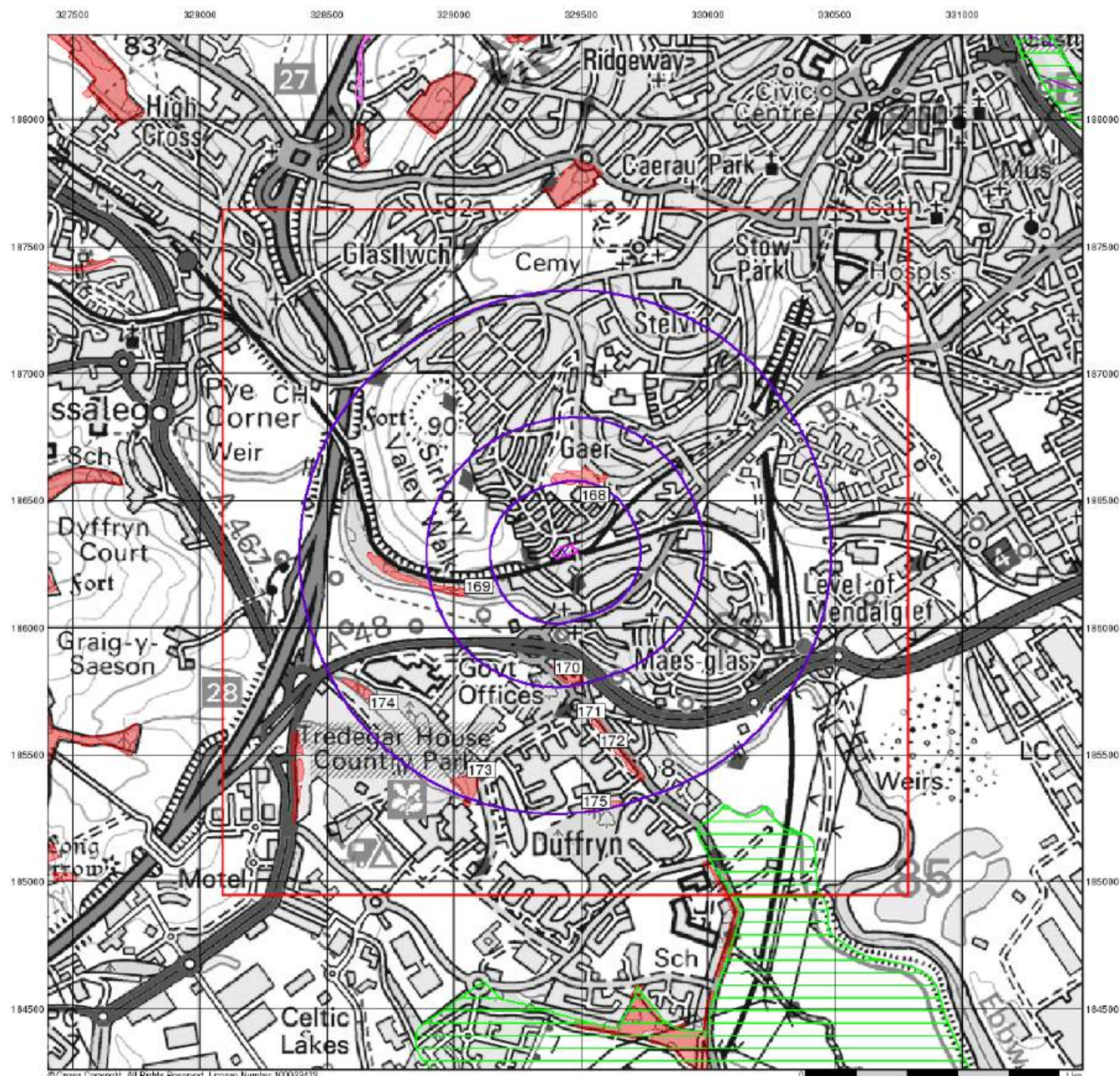
Order Number: 247770696_1_1
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 National Grid Reference: 329440, 186300
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Sensitive Land Uses

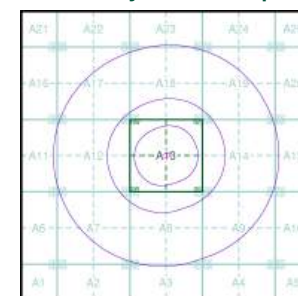
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

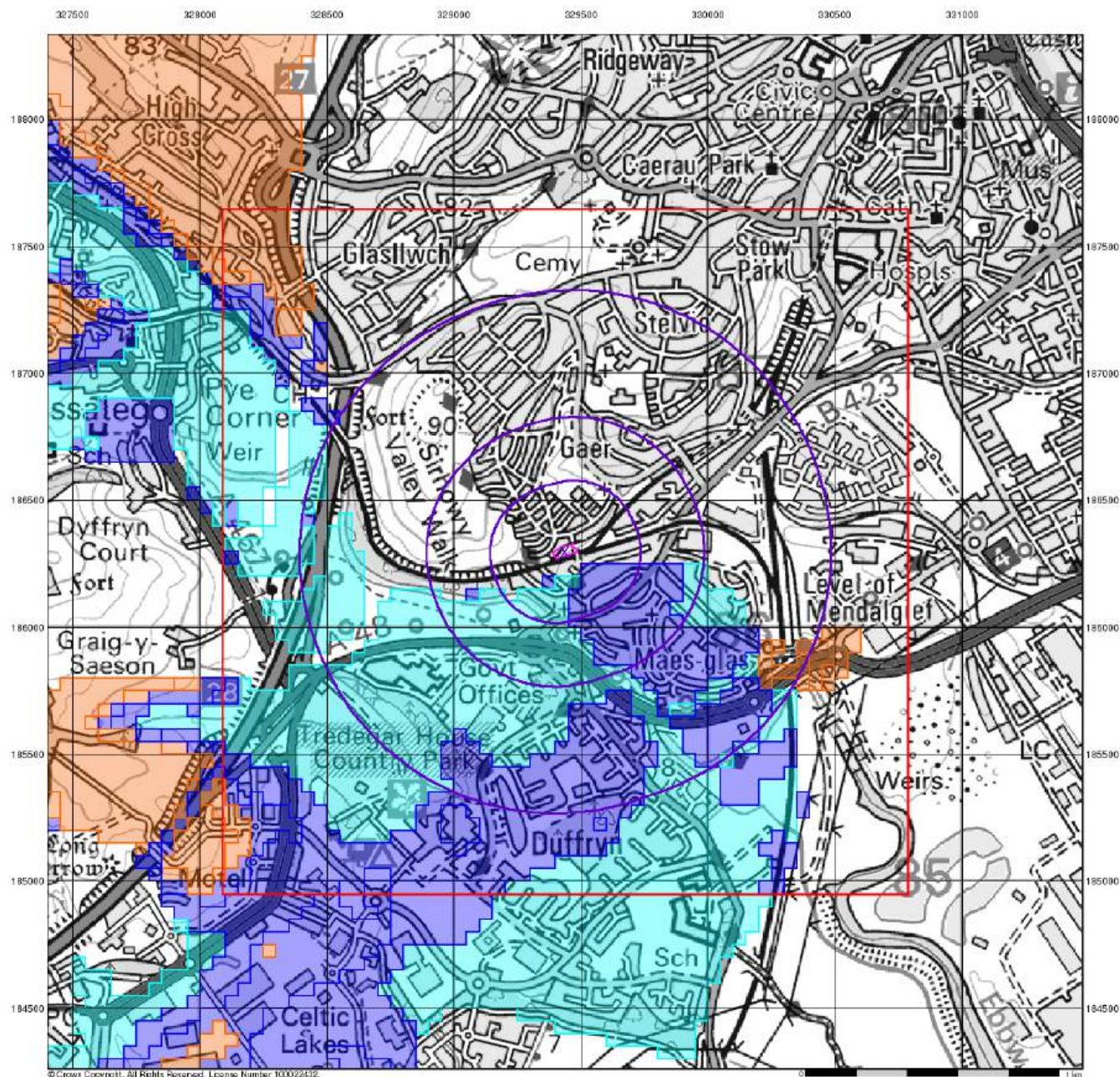
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BGS Flood GFS Data

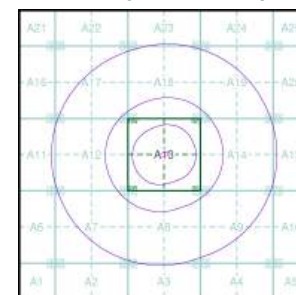
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
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 Search Buffer (m): 1000

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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral
- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

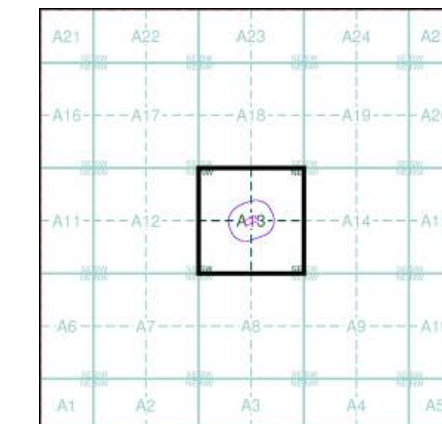
Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13

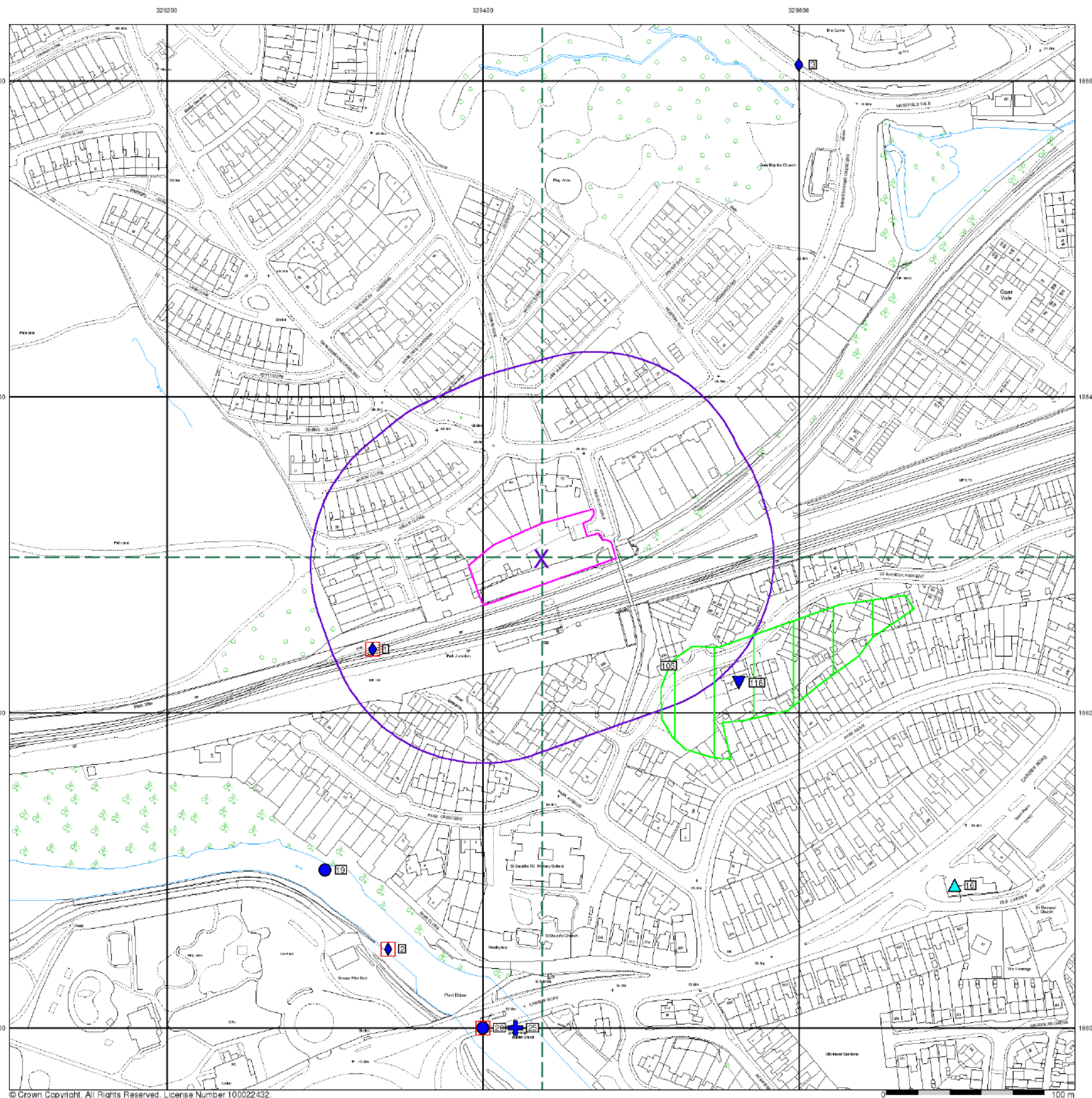


Order Details

Order Number: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
 National Grid Reference: 329440, 186300
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 Site Area (Ha): 0.29
 Plot Buffer (m): 100

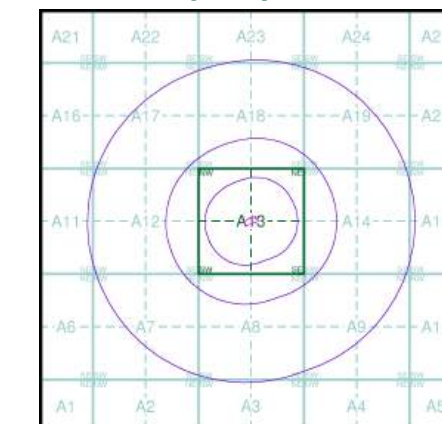
Site Details

Marayat Walk, Newport



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention and Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - BGS Recorded Mineral Site
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
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 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A

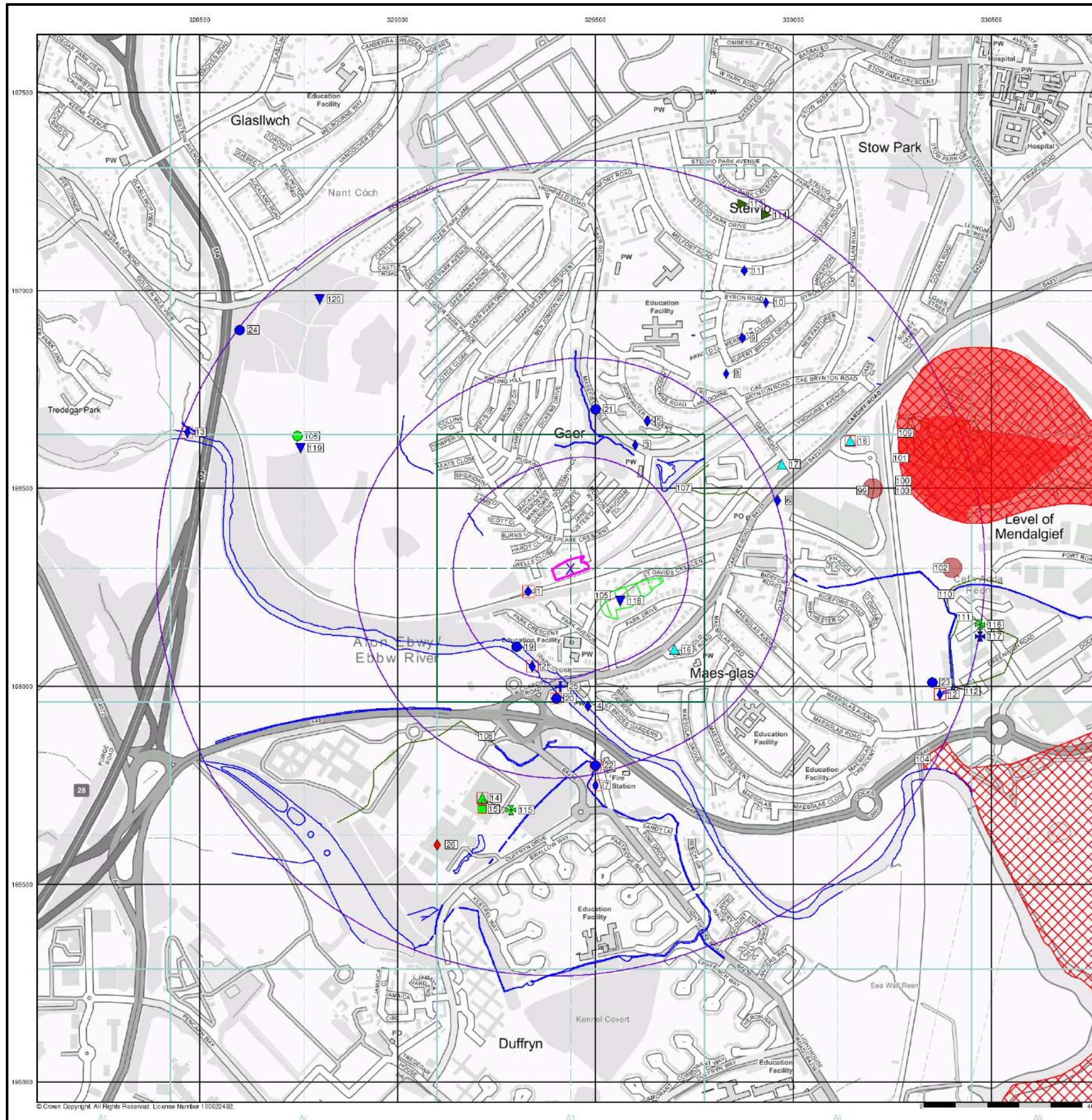


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Site Details

Marayat Walk, Newport





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Industrial Land Use Map

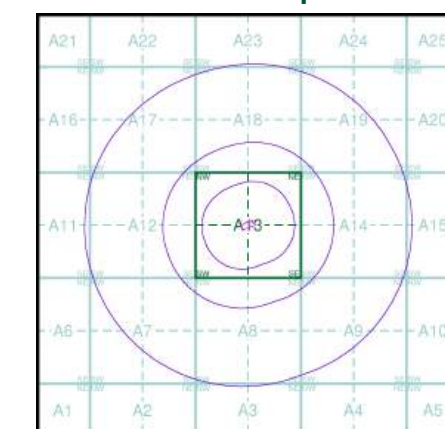
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

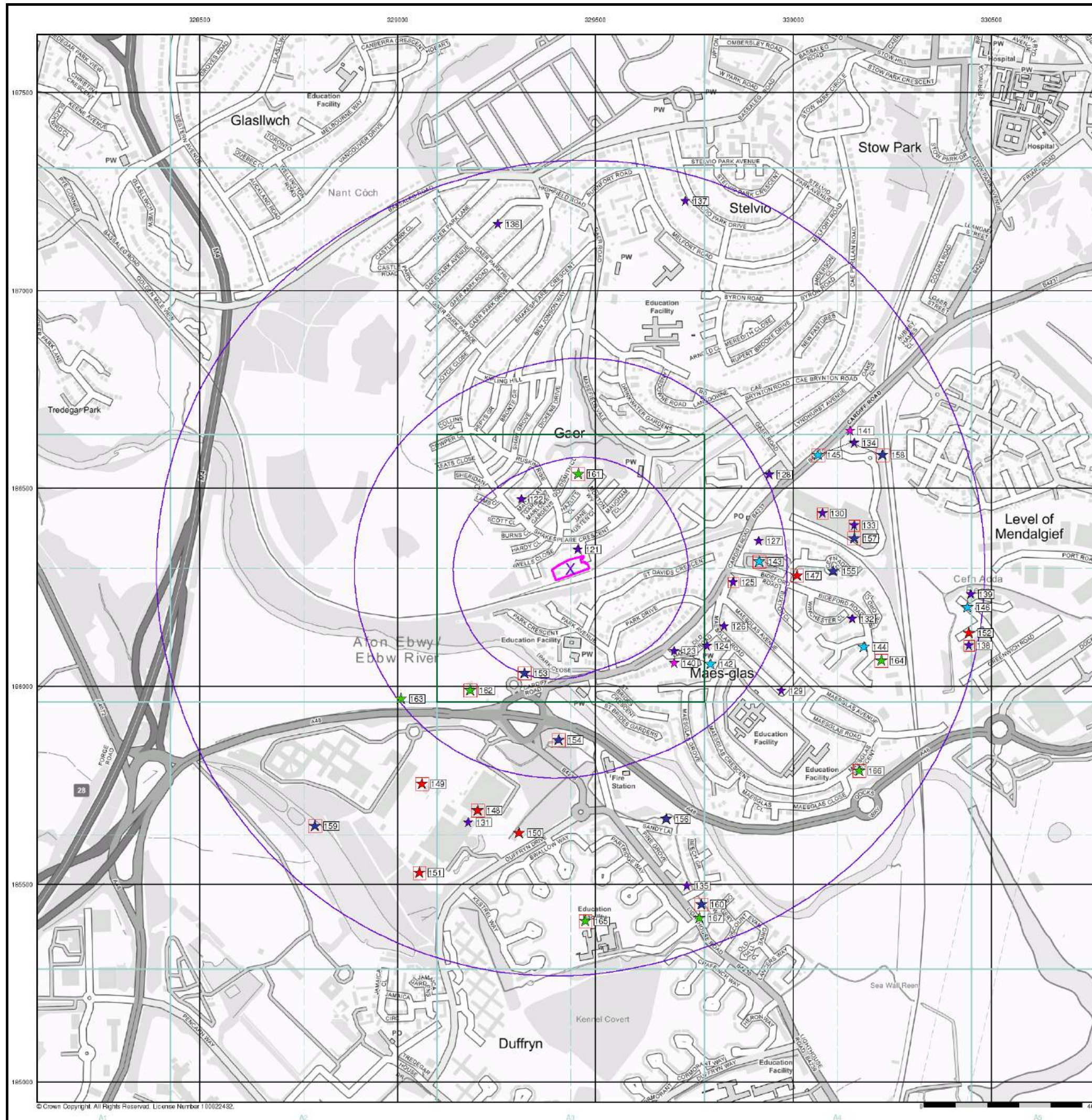
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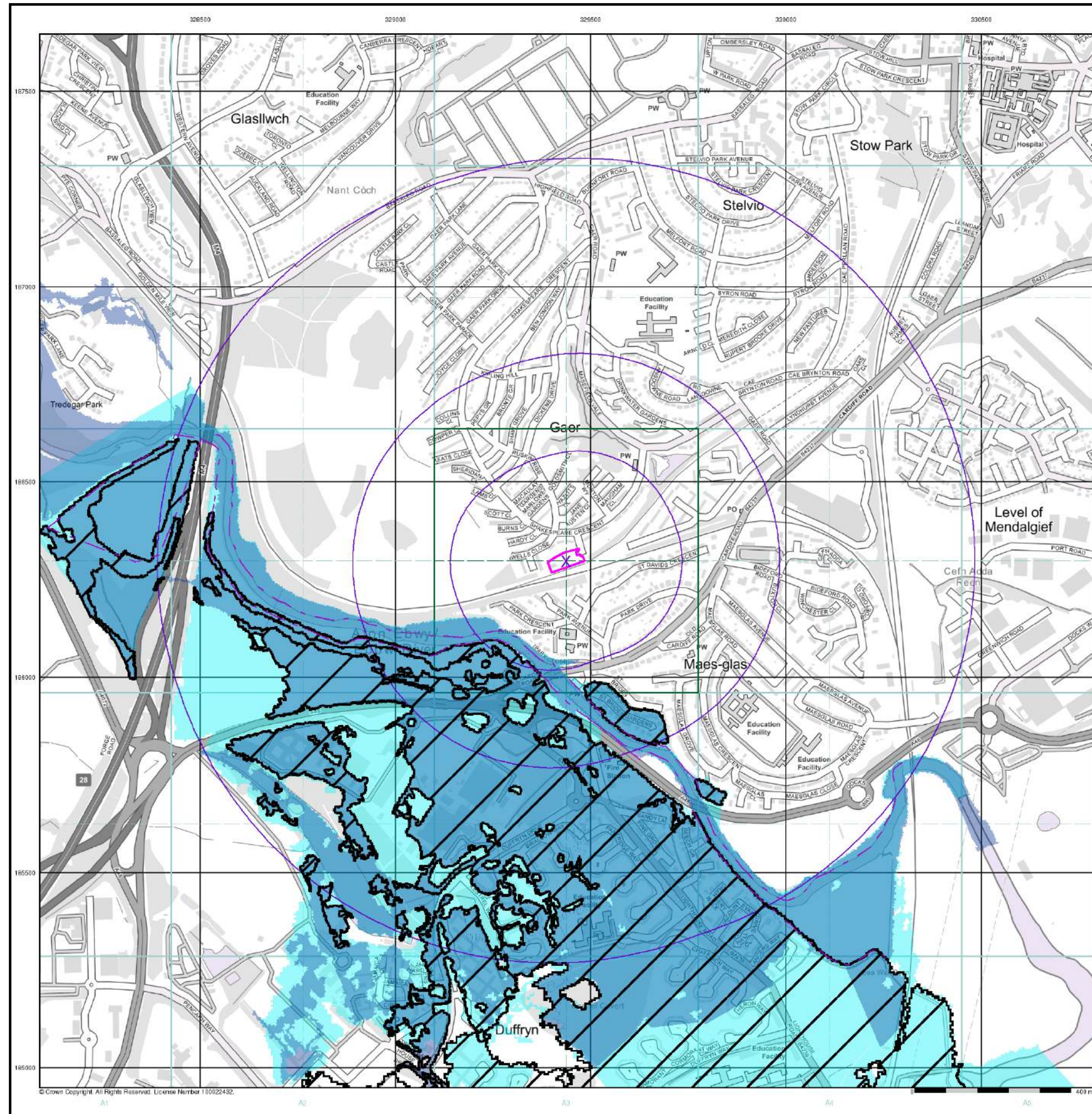
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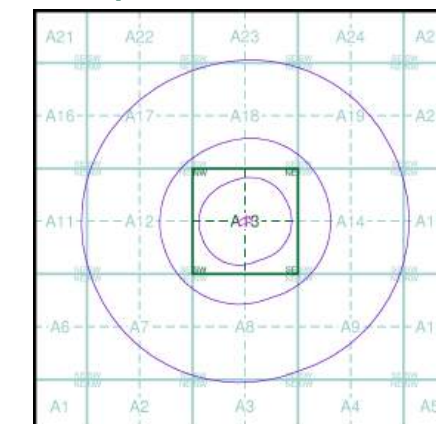
General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- ▨ Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



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General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Map ID
-  Several of Type at Location

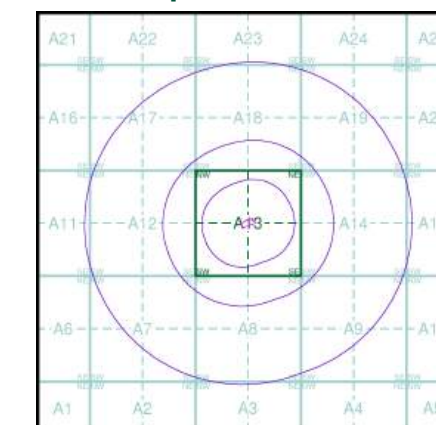
Agency and Hydrological (Boreholes)

-  BGS Borehole Depth 0 - 10m
-  BGS Borehole Depth 10 - 30m
-  BGS Borehole Depth 30m +
-  Confidential
-  Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

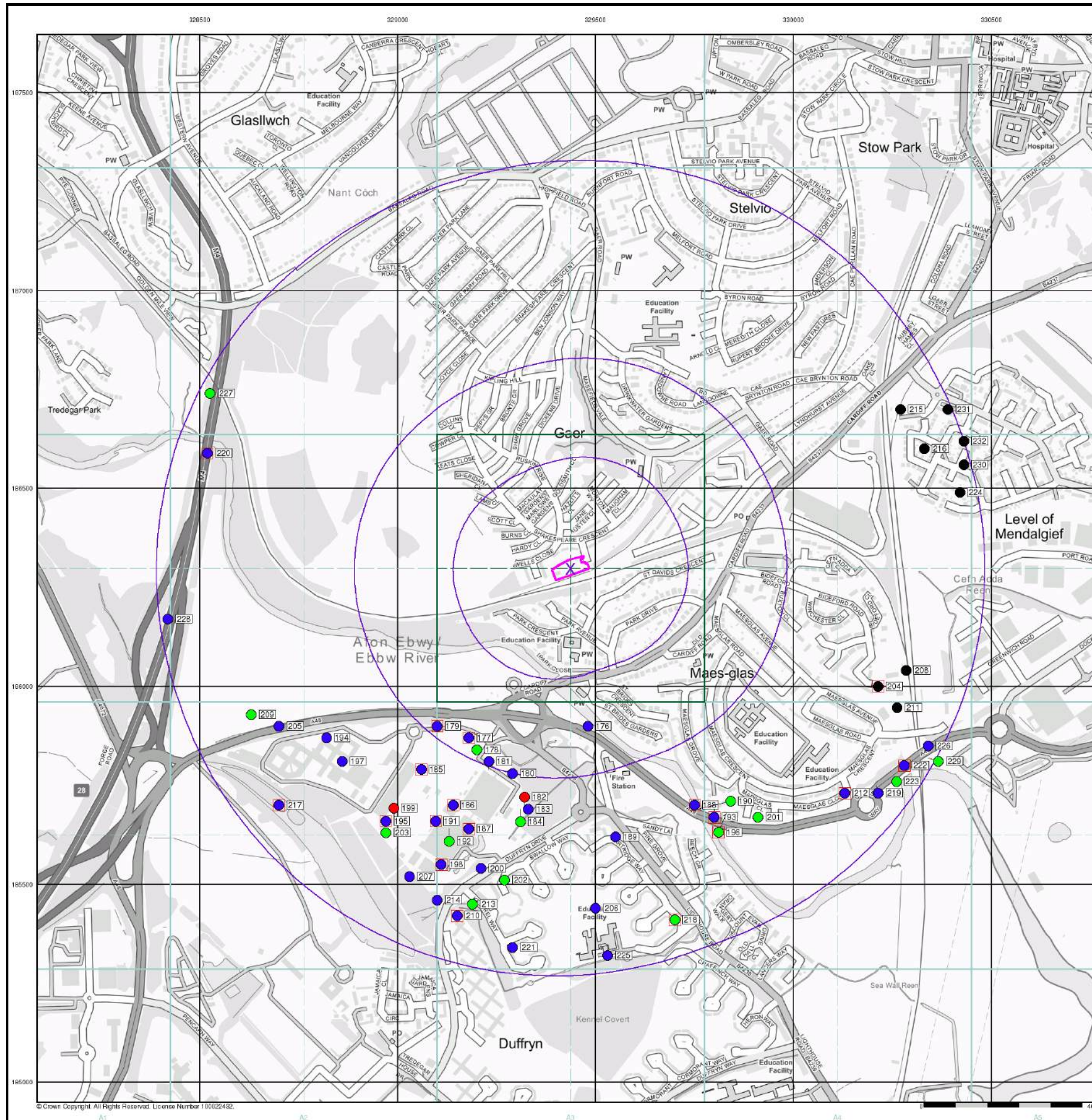


Order Details

Order Number: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
 National Grid Reference: 329440, 186300
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

Marayat Walk, Newport



General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

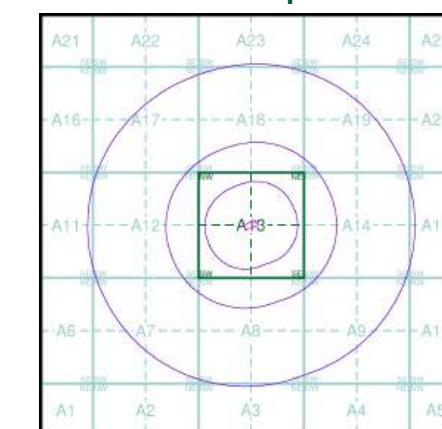
OS Water Network Data

- | | |
|--------------|-------------------------|
| Canal | Drain |
| Reservoir | Other |
| Foreshore | Lake |
| Marsh | Transfer |
| Tidal River | Lock Or Flight Of Locks |
| Inland River | Sea |

Contours (height in meters)

- Standard Contour 105 Mean Low Water
- Master Contour 100 Mean High Water
- Spot Height 167.3

OS Water Network Map - Slice A

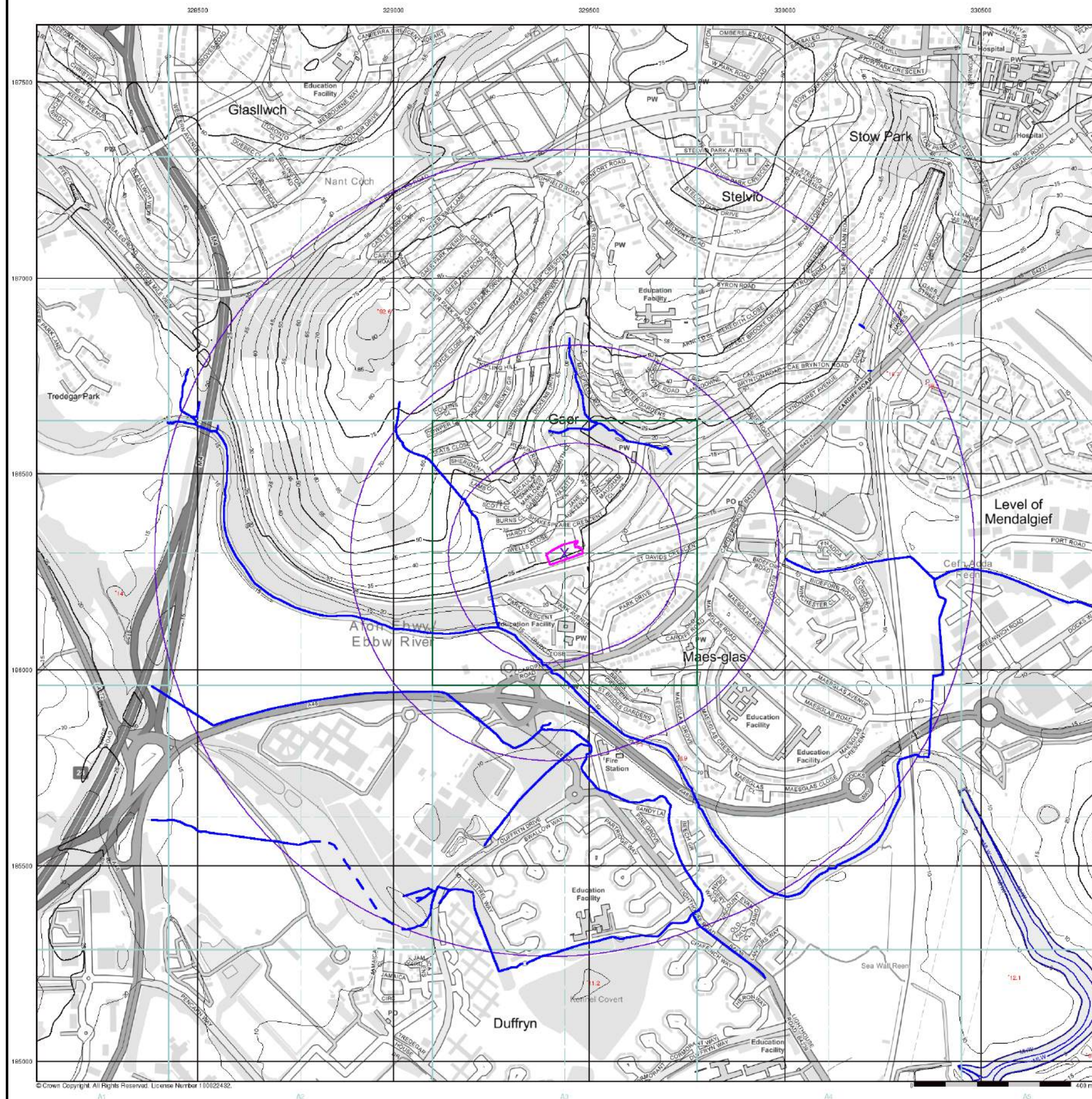


Order Details

Order Number: 247770696_1_1
Customer Ref: 16204 - Marayat Walk
National Grid Reference: 329440, 186300
Slice: A
Site Area (Ha): 0.29
Search Buffer (m): 1000

Site Details

Marayat Walk, Newport



General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Risk of Flooding from Surface Water

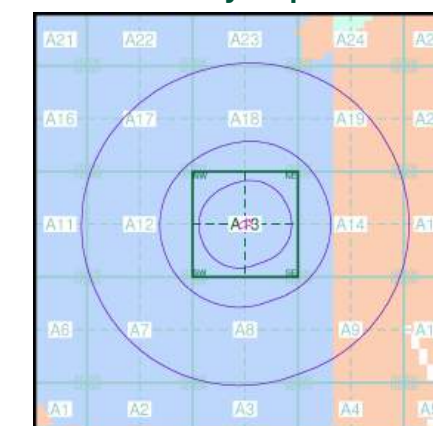
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

E/NRW Suitability Map - Slice A

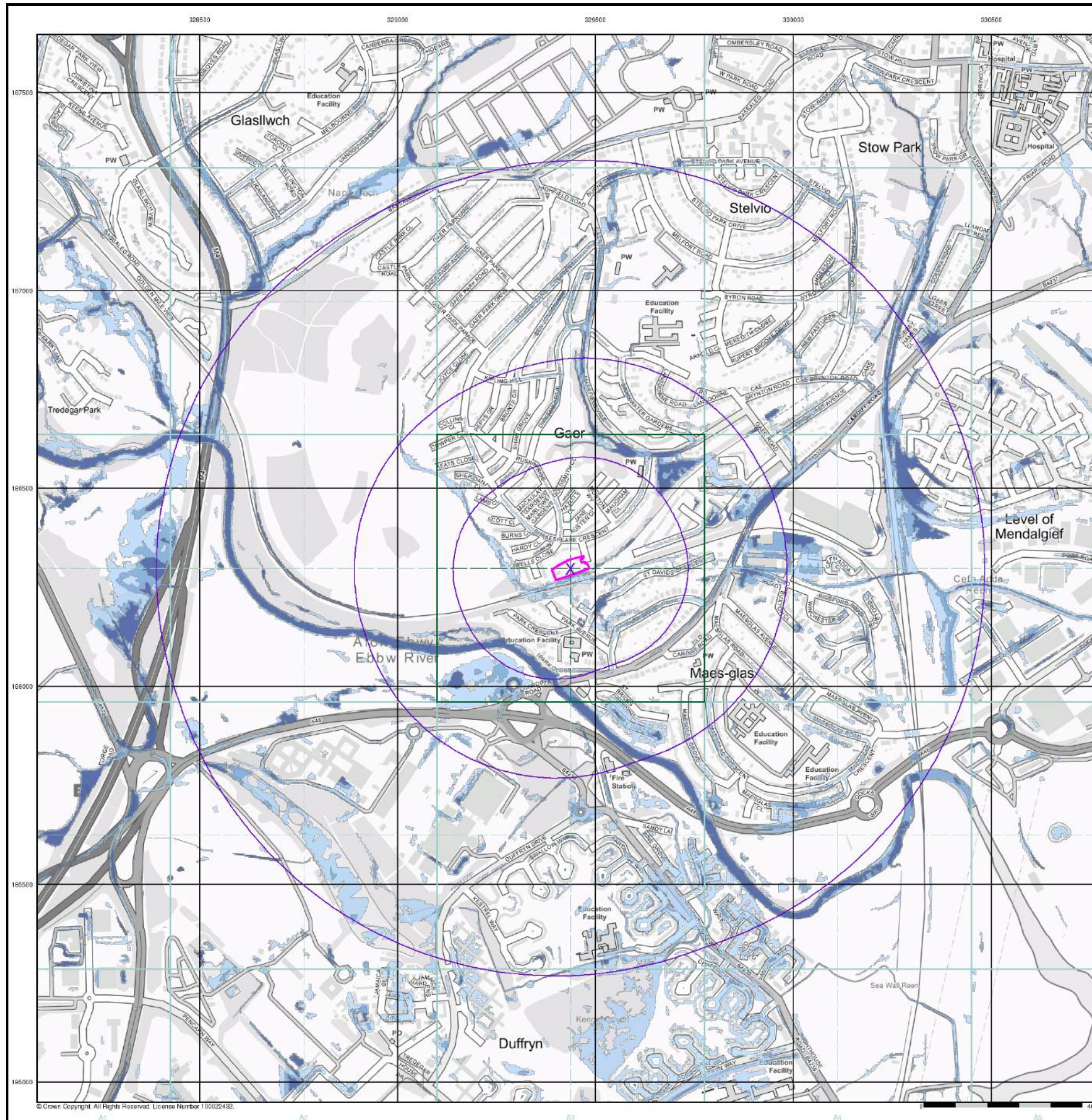


Order Details

Order Number: 247770696_1_1
Customer Ref: 16204 - Marayat Walk
National Grid Reference: 329440, 186300
Slice: A
Site Area (Ha): 0.29
Search Buffer (m): 1000

Site Details

Marayat Walk, Newport

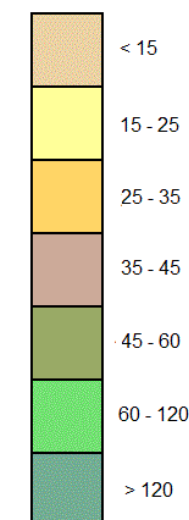


General

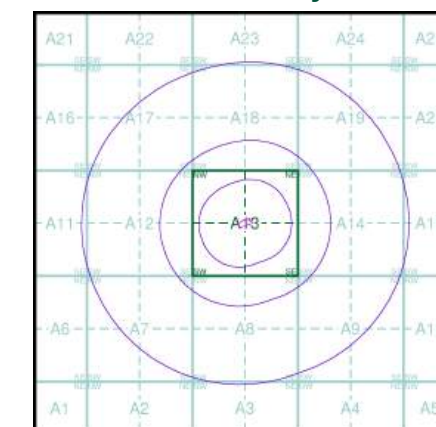
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A

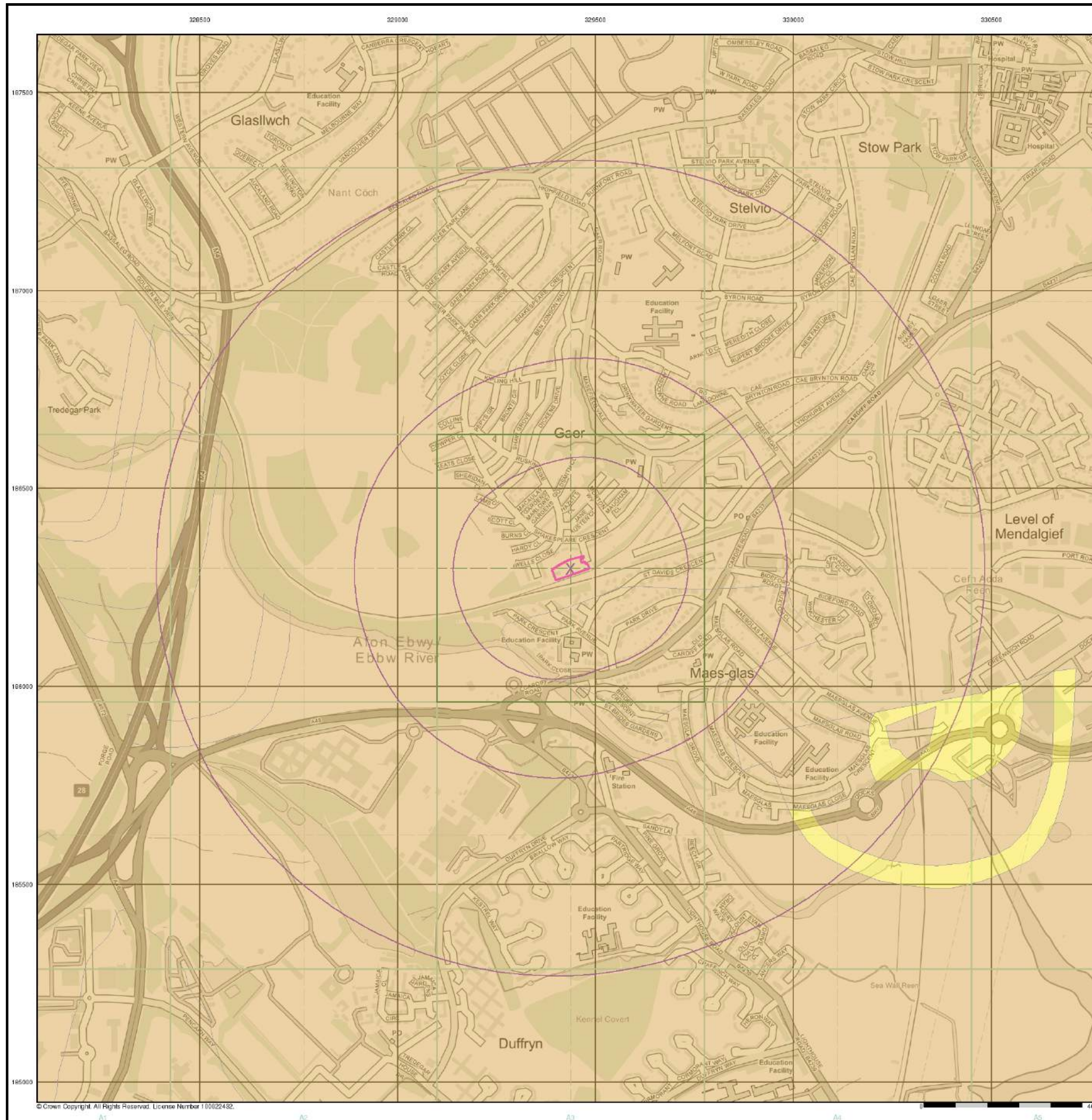


Order Details

Order Details: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
 National Grid Reference: 329440, 186300
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

Marayat Walk, Newport

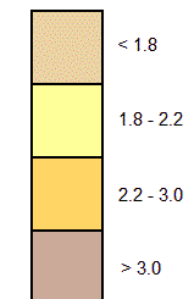


General

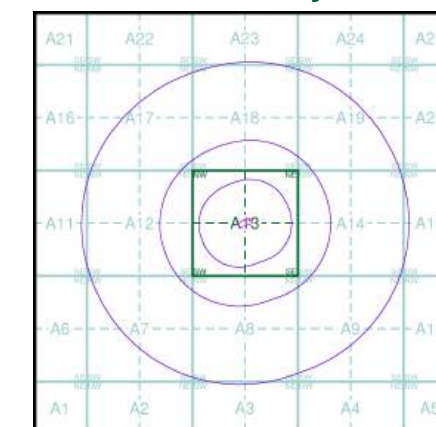
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A

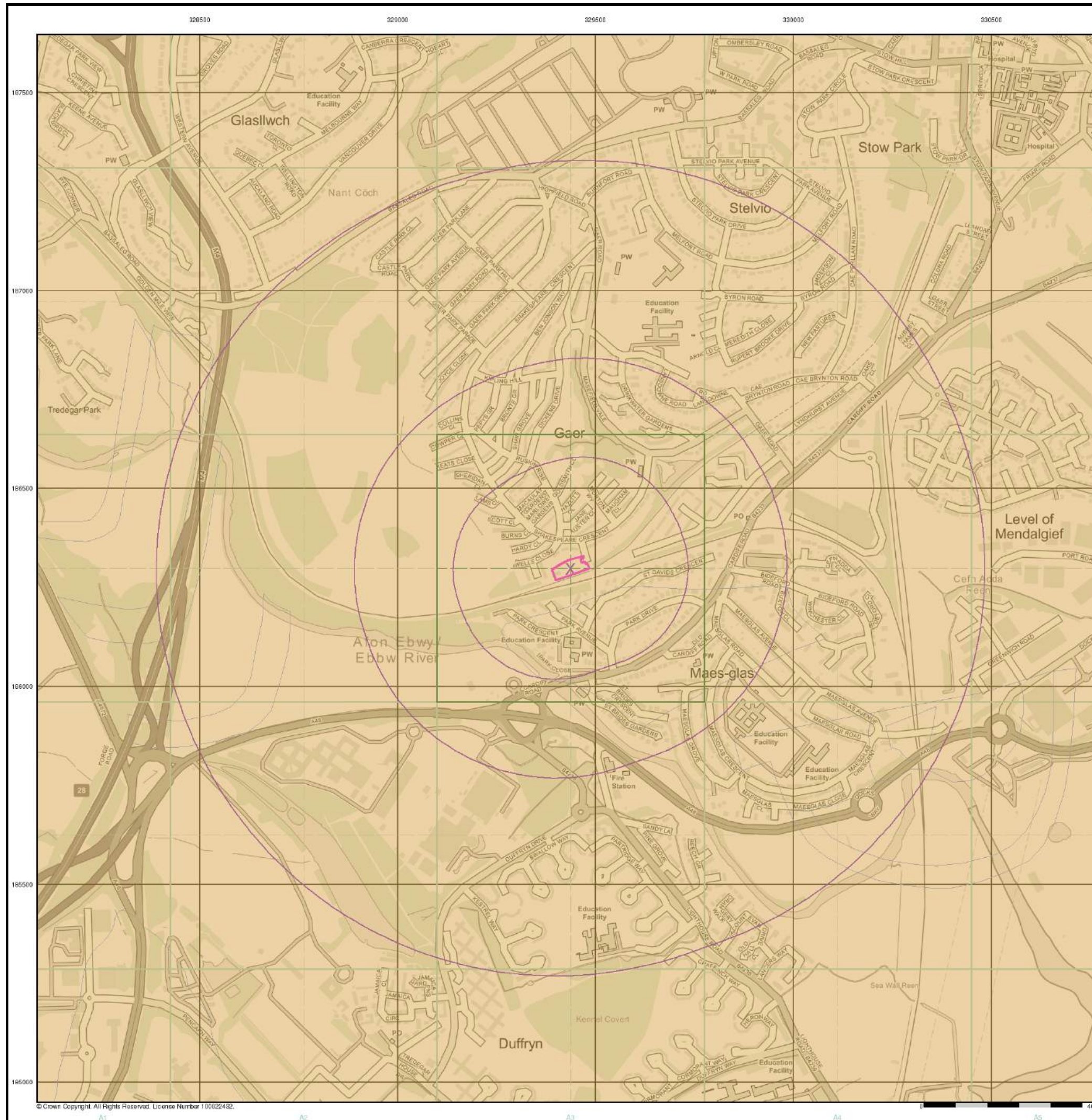


Order Details

Order Details: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
 National Grid Reference: 329440, 186300
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

Marayat Walk, Newport

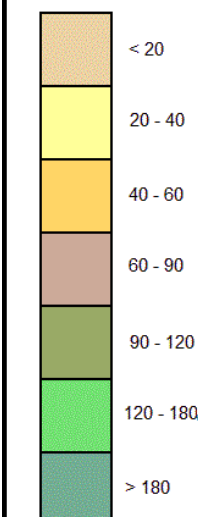


General

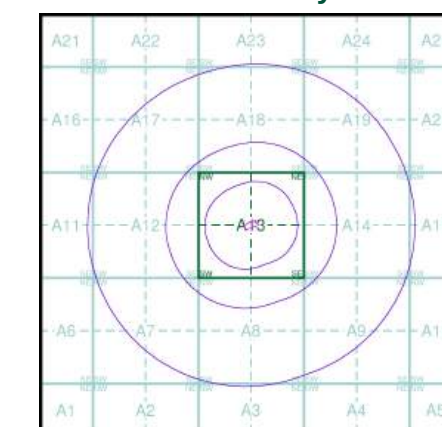
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A

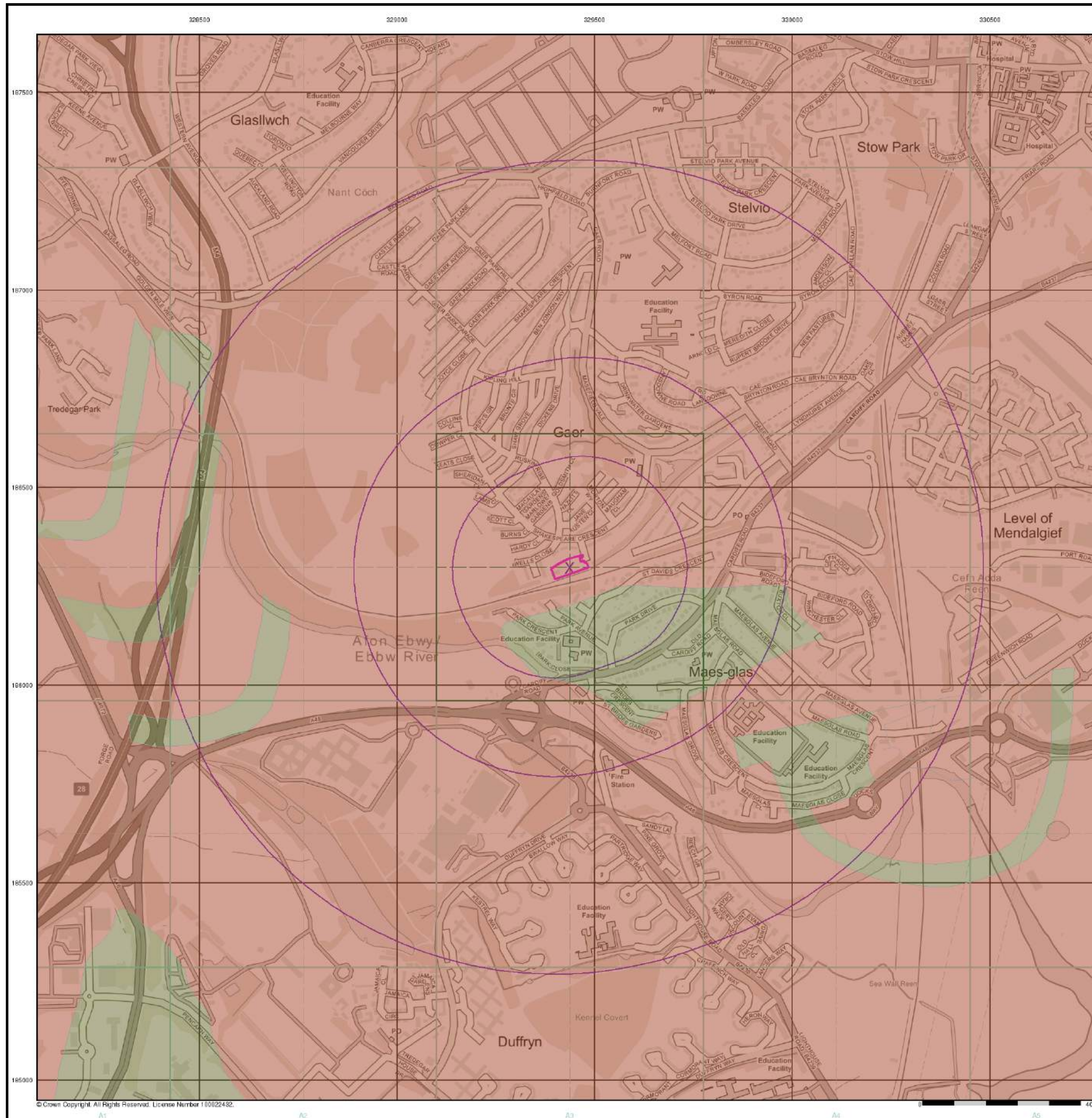


Order Details

Order Details: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
 National Grid Reference: 329440, 186300
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

Marayat Walk, Newport

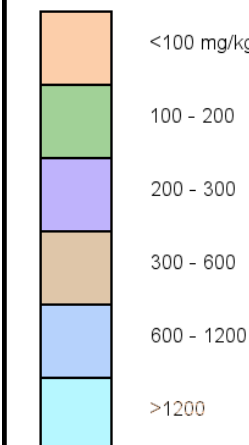


General

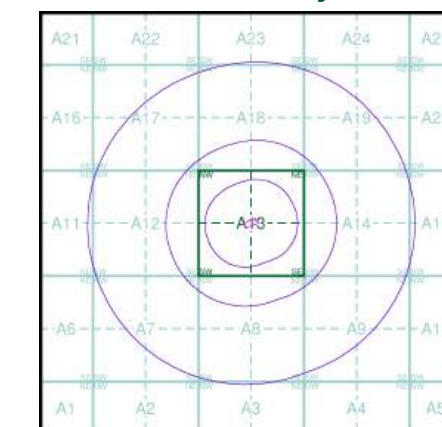
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A

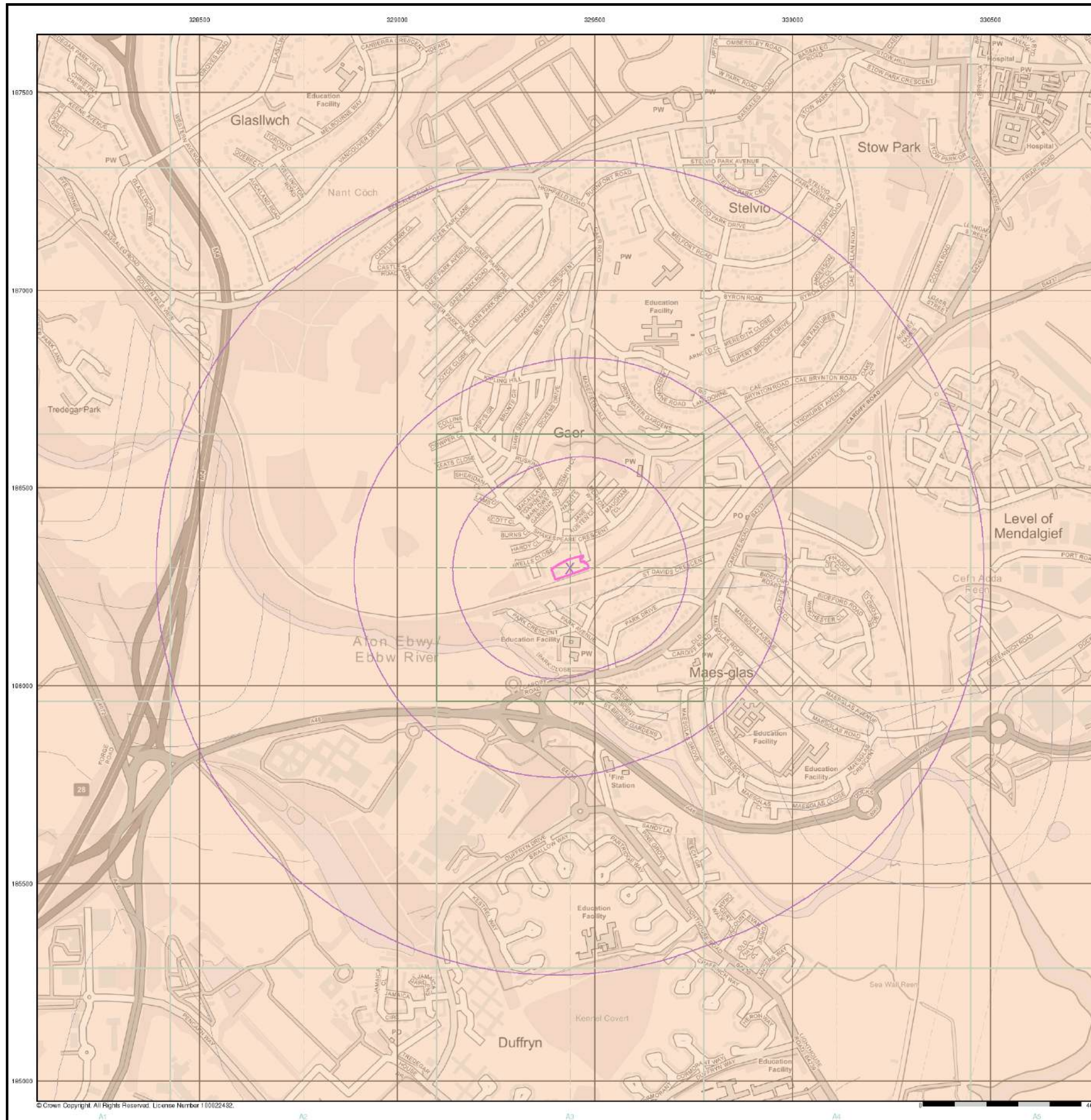


Order Details

Order Details: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
 National Grid Reference: 329440, 186300
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

Marayat Walk, Newport

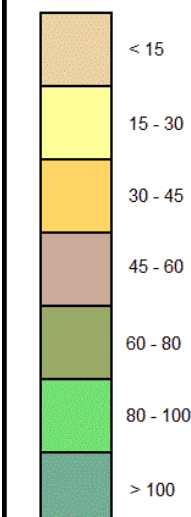


General

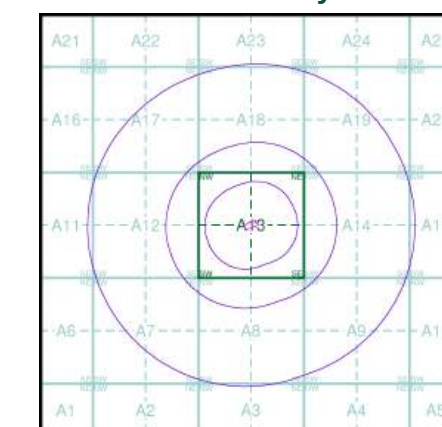
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A

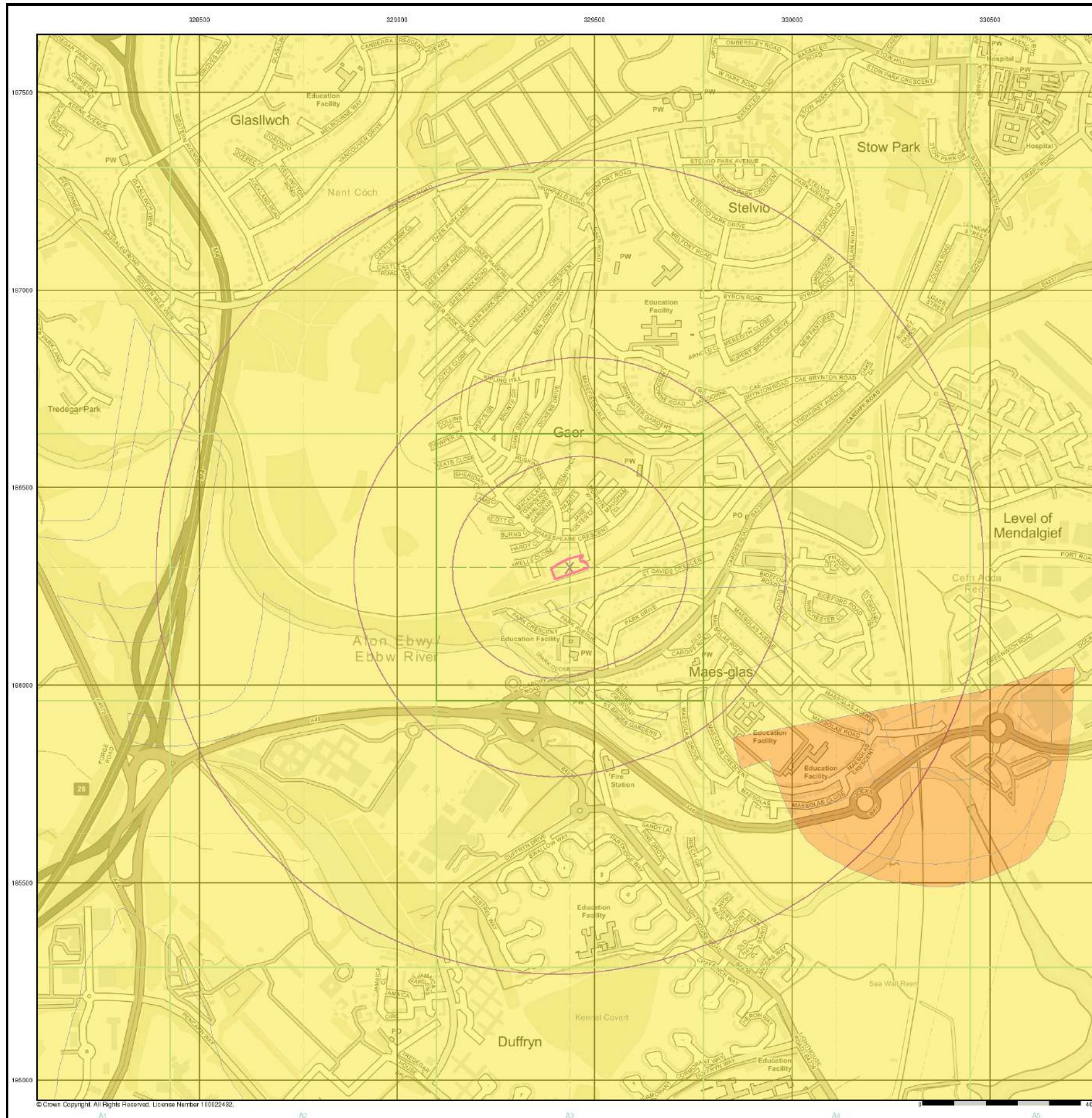


Order Details

Order Details: 247770696_1_1
 Customer Ref: 16204 - Marayat Walk
 National Grid Reference: 329440, 186300
 Slice: A
 Site Area (Ha): 0.29
 Search Buffer (m): 1000

Site Details

Marayat Walk, Newport



ANNEX C
Risk Assessment Definitions

Risk Assessment Definitions

Environmental risk assessment evaluates the risk to receptors via an analysis of the 'source-pathway-receptor' linkage.

- (1) A **CONTAMINANT** (hazard) - a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters
- (2) A **RECEPTOR** (target) - something which could be adversely affected by a contaminant
- (3) A **PATHWAY** - a route or means which either allows the contaminant to cause significant harm to that receptor, or that there is a significant possibility of such harm being caused to the receptor, or that pollution of controlled waters is being or likely to be caused.

The term 'Risk' is widely used in different contexts and situations, but a prescriptive definition is given by the Guidelines for Environmental Risk Assessment and Management (DEFRA *et al*, 2000):

'Risk is a combination of the probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence'.

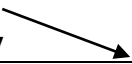
A 'Hazard' is defined as *'a property or situation that in particular circumstances could lead to harm'.*

The classification of consequences and probability and determining the risk category are defined in the following sections.

Table 1 Classification of Consequence	
Classification	Definition
Severe	• Short term (acute) risk to human health likely to result in significant harm • Short term risk to controlled waters • Catastrophic damage to buildings/structures • Short term risk to an ecosystem or organism within the particular ecosystem
Medium	• Chronic damage to human health (long term risk) • Pollution of a sensitive water resource • A significant change in an ecosystem or organism within the ecosystem
Mild	• Pollution of non-sensitive water resources • Significant damage to buildings/structures
Negligible	• Harm (not necessarily significant) which may result in financial loss • Non permanent health effects to humans (easily prevented by PPE for example) • Easily repairable effects of structural (building) damage

Table 2 Classification of Probability	
Classification	Definition
High	• There is a complete pollution linkage and an event appears very likely to occur in the short term and is inevitable in the long term. • Evidence of harm to the receptor
Medium	• There is a complete pollution linkage which means that it is probable that an event will occur • The event is not inevitable but possible in short term and likely in the long term
Low	• There is a complete pollution linkage and circumstances are possible under which an event could occur • It is not certain that an event will occur in the long term, and it is less likely to occur in the short term
Negligible	• There is a complete pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term

By comparing the consequences of a risk and the probability of the risk of a pollution linkage, the likely risk category can be determined as shown in **Table 3** below.

Table 3 Risk Assessment Matrix					
Increasing acceptability 		Consequence			
		Severe	Medium	Mild	Negligible
Probability	High	High	High	Medium / Low	Near zero
	Medium	High	Medium	Low	Near zero
	Low	High / medium	Medium / Low	Low	Near zero
	Negligible	High / medium / Low	Medium / Low	Low	Near zero

High Risk

There is a high probability that severe harm could risk a receptor, or there is evidence that a receptor is being harmed. The risk if realised is likely to result in liability, and urgent investigation or remediation will be required.

Medium Risk

It is probable that harm will arise to a receptor. However it is relatively unlikely that such harm would be severe, or if harm does occur the harm is likely to be relatively mild. Investigation will be required to determine the liability, and some remedial works may be required in the long term.

Low Risk

It is possible that harm may arise to a receptor, but it is likely that the harm would be mild.

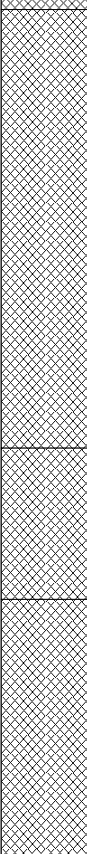
Near Zero Risk

There is a very low risk of harm to the receptor. In the event of harm being realised the harm is very mild.

ANNEX D
Trial Pit Logs

Project Name: Marayat Walk	Project No: 16204	Co-ords: 329411.00 - 186287.00 Level:	Date:
----------------------------	-------------------	--	-------

Location: Marayat Walk, Newport	Dimensions: 1.60 Depth 2.85	Scale: 1:25 Logged: ADB
Client: Mews Estates Limited		

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼	1.60	ES		0.05			MADE GROUND: Concrete paving slabs. MADE GROUND: Soft, brown, slightly gravelly CLAY. Gravel is fine to coarse, subangular mudstone. Contains brick and concrete.
				1.50			MADE GROUND: Firm to stiff, red brown, slightly gravelly CLAY. Gravel is fine to coarse, subangular of red mudstone.
				2.00			MADE GROUND: (Loose), dark grey, ashy clayey gravelly SAND. Sand is fine to coarse grained. Gravel is fine to coarse angular brick and concrete. Contains glass, timber metal, plastic sheeting.
				2.85			End of Pit at 2.850m

Stability: Large collapse during soakaway test.

Remarks: 1. Small perched groundwater seepages encountered at 1.80. 2. Density indicator in brackets is based on field judgment and is not in accordance with BS5930:2015 but for guidance only. 3. Trial pit terminated for soakaway test. 4. Trial pit backfilled with arisings. 5. Co-ordinates are approximate and were generated online.

Project Name: Marayat Walk	Project No: 16204	Co-ords: 329443.00 - 186297.00 Level:	Date:
----------------------------	-------------------	--	-------

Location: Marayat Walk, Newport	Dimensions: 1.50 Depth 2.10	Scale: 1:25 Logged: ADB
Client: Mews Estates Limited		

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.80	ES		1.30			MADE GROUND: Firm, reddish brown, gravelly CLAY. Gravel is fine to coarse, subangular to rounded red mudstone.	1
				1.90			MADE GROUND: (Loose), dark grey brown, ashy very clayey gravelly SAND with common cobbles. Sand is fine to coarse, subangular brick, concrete and mudstone. Contains ceramic and glass.	
				2.10			MADE GROUND: Firm, red brown, gravelly CLAY, Gravel is fine to coarse, subangular to subrounded mudstone.	2
							End of Pit at 2.100m	
								3
								4
								5

Stability: Trial pit walls are stable.

Remarks: 1. No groundwater encountered. 2. Density indicator in brackets is based on field judgment and is not in accordance with BS5930:2015 but for guidance only. 3. Trial pit terminated for soakaway test. 4. Trial pit backfilled with arisings. 5. Co-ordinates are approximate and were generated online.



Tel: 02920 735354
info@terrafirmawales.co.uk
www.terrafirmawales.co.uk

Terra Firma (Wales) Limited
5 Deryn Court, Wharfedale Road
Pentwyn, Cardiff
CF23 7HA

Trial Pit No:

TP03

Sheet 1 of 1

Project Name: Marayat Walk

Project No:
16204

Co-ords: 329433.00 - 186316.00
Level:

Date:

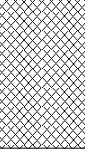
Location: Marayat Walk, Newport

Dimensions: 1.50
Depth 0.60
0.70

Scale:
1:25

Logged:
ADB

Client: Mews Estates Limited

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.40	ES		0.20			MADE GROUND: Firm, brown, slightly gravelly CLAY. Gravel is fine to coarse, subangular to rounded mudstone. Fine roots.
				0.70			MADE GROUND: Firm, red brown, slightly gravelly CLAY with common cobbles. Gravel is fine to coarse, subangular mudstone. Contains occasional brick and concrete.
							End of Pit at 0.700m
							1
							2
							3
							4
							5

Stability: Trail pit walls are stable for duration of excavation and soakaway test.

Remarks: 1. No groundwater encountered. 2. Density indicator in brackets is based on field judgment and is not in accordance with BS5930:2015 but for guidance only. 3. Trial pit terminated for shallow soakaway test. 4. Trial pit backfilled with arisings. 5. Co-ordinates are approximate and were generated online.

Project Name: Marayat Walk	Project No: 16204	Co-ords: 329400.00 - 186288.00 Level:	Date:
----------------------------	-------------------	--	-------

Location: Marayat Walk, Newport	Dimensions: Depth 3.50	Scale: 1:25 Logged: ADB
Client: Mews Estates Limited		

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.70	ES		0.10			MADE GROUND: (Loose), grey and brown, clayey GRAVEL. Gravel is fine to coarse, angular limestone. MADE GROUND: Firm, brown, very gravelly CLAY. Gravel is fine to coarse, angular to subrounded mudstone, brick and concrete. Contains rusted metal fragments.	1
	2.00	ES		1.20			MADE GROUND: (Loose), brown and grey, ashy slightly clayey gravelly SAND with cobbles and boulders. Sand is fine to coarse grained. Gravel is fine to coarse, angular concrete and brick. Contains much glass bottles, ceramic, fabric, plastic bags and rubbish, rusted metal, occasional bone fragments. and probable asbestos cement sheet fragments. Hydrocarbon odour noted.	2
				3.50			End of Pit at 3.500m	3
								4
								5

Stability: Large collapses of the trial pit walls are observed.

Remarks: 1. No groundwater encountered. 2. Density indicator in brackets is based on field judgment and is not in accordance with BS5930:2015 but for guidance only. 3. Trial pit terminated at limit of excavators reach. 4. Trial pit backfilled with arisings. 5. Co-ordinates are approximate and were generated online.

Project Name: Marayat Walk	Project No: 16204	Co-ords: 329421.00 - 186297.00 Level:	Date:
----------------------------	-------------------	--	-------

Location: Marayat Walk, Newport	Dimensions: Depth 3.50	Scale: 1:25 Logged: ADB
Client: Mews Estates Limited		

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
▼				0.10			MADE GROUND: (Loose), grey, clayey GRAVEL. Gravel is fine to coarse, angular limestone.
				1.20			MADE GROUND: Stiff, reddish brown, gravelly CLAY. Gravel is fine to coarse, angular to subrounded mudstone, brick and concrete.
	1.60	ES					MADE GROUND: (Loose), dark grey, ashy slightly clayey gravelly SAND with common cobbles. Gravel is fine to coarse, angular to subangular mudstone, brick and concrete. Contains much glass bottles, fabric, timber, plastic bags and rubbish, tyre, rusted metal and wire. Strong hydrocarbon odour noted.
				3.50			End of Pit at 3.500m

Stability: Trial pit walls are unstable and moderate collapses are observed.
Remarks: 1. Small perched groundwater seepages encountered at 1.30. 2. Density indicator in brackets is based on field judgment and is not in accordance with BS5930:2015 but for guidance only. 3. Trial pit terminated at limit of excavators reach. 4. Trial pit backfilled with arisings. 5. Co-ordinates are approximate and were generated online.

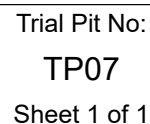
Project Name: Marayat Walk	Project No: 16204	Co-ords: 329447.00 - 186308.00 Level:	Date:
----------------------------	-------------------	--	-------

Location: Marayat Walk, Newport	Dimensions: Depth 3.50	Scale: 1:25 Logged: ADB
Client: Mews Estates Limited		

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.20			MADE GROUND: Soft, dark brown, slightly gravelly CLAY. Gravel is fine to coarse, subangular to rounded mudstone.	
				0.90			MADE GROUND; Firm, red brown, slightly gravelly CLAY. Gravel is fine to coarse, subangular to rounded mudstone. Contains occasional brick and concrete.	
				1.40			MADE GROUND: Firm, dark grey, gravelly CLAY. Gravel is fine to coarse, angular brick and concrete. Contains glass.	1
	1.50	ES		1.40			MADE GROUND; (Loose), dark grey, ashy slightly clayey gravelly SAND. Gravel is fine to coarse, angular to subrounded, mudstone, brick and concrete. Contains much glass, ceramic, plastic bags and litter, timber, fabric, newspaper and a shoe. Slight hydrocarbon odour noted.	2
				3.50			End of Pit at 3.500m	3
								4
								5

Stability: Small collapses of the trial pit walls are observed.

Remarks: 1. No groundwater encountered. 2. Density indicator in brackets is based on field judgment and is not in accordance with BS5930:2015 but for guidance only. 3. Trial pit terminated at limit of excavators reach. 4. Trial pit backfilled with arisings. 5. Co-ordinates are approximate and were generated online.



Date:

1:25

3.50

Logged:

Remarks: 1. No groundwater encountered. 2. Density indicator in brackets is based on field judgment and is not in accordance with BS5930:2015 but for guidance only. 3. Trial pit terminated at limit of excavators reach. 4. Trial pit backfilled with arisings. 5. Co-ordinates are approximate and were generated online.

ANNEX E
Laboratory Soil Chemical Test Results



Amended Report

Report No.:	20-23425-2		
Initial Date of Issue:	09-Sep-2020	Date of Re-Issue:	10-Sep-2020
Client	Terra Firma (Wales) Ltd		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	Alan Beattie		
Project	Marayat Walk		
Quotation No.:	Q18-15369	Date Received:	03-Sep-2020
Order No.:	16204AB	Date Instructed:	03-Sep-2020
No. of Samples:	8		
Turnaround (Wkdays):	8	Results Due:	14-Sep-2020
Date Approved:	10-Sep-2020		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Results - Soil

Project: Marayat Walk

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				20-23425	20-23425	20-23425	20-23425	20-23425	20-23425	20-23425	20-23425
Quotation No.: Q18-15369	Chemtest Sample ID.:				1058241	1058242	1058243	1058244	1058245	1058246	1058247	1058248
	Client Sample ID.:				TP01	TP02	TP03	TP04	TP04	TP05	TP06	TP07
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				1.60	0.80	0.40	0.70	2.00	1.60	1.50	0.70
	Date Sampled:				28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020
	Time Sampled:				0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
ACM Type	U	2192		N/A	-	-	-	-	Fibres/Clumps, Insulation	-	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	Amosite Chrysotile	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-	-	-	Stereo Microscopy	-	-	-
Asbestos by Gravimetry	U	2192	%	0.001					1.3			
Total Asbestos	U	2192	%	0.001					1.3			
Moisture	N	2030	%	0.020	13	11	13	9.4	30	11	14	15
Soil Colour	N	2040		N/A	Black	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	None	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Clay	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	8.4	8.3	8.4	8.8	8.2	9.0	8.4	8.4
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.48	< 0.40	< 0.40	0.44	[B] 1.2	0.83	2.2	0.53
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	4.4	< 0.50	3.2	< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.010	0.088	0.016	0.035	0.10	0.51	0.12	0.16	0.10
Arsenic	M	2450	mg/kg	1.0	15	4.2	4.4	30	53	31	33	33
Cadmium	M	2450	mg/kg	0.10	3.3	0.15	0.10	< 0.10	1.3	0.28	0.55	1.6
Chromium	M	2450	mg/kg	1.0	29	38	36	26	96	24	41	43
Mercury Low Level	M	2450	mg/kg	0.05	0.28	0.06	< 0.05	0.93	1.4	0.75	0.75	1.2
Copper	M	2450	mg/kg	0.50	86	29	9.4	98	550	95	210	450
Nickel	M	2450	mg/kg	0.50	39	52	43	45	150	36	54	53
Lead	M	2450	mg/kg	0.50	340	34	10	240	2100	320	1200	400
Selenium	M	2450	mg/kg	0.20	0.45	< 0.20	< 0.20	< 0.20	1.0	0.44	0.50	0.70
Zinc	M	2450	mg/kg	0.50	200	95	61	160	1300	170	320	330
Chromium (Trivalent)	N	2490	mg/kg	1.0	29	38	36	26	96	24	41	43
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	32	< 1.0	< 1.0	130	83	17	41	330
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	8.6	< 1.0	< 1.0	39	22	4.6	12	310
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	3.8	< 1.0	< 1.0	22	8.8	2.3	4.9	360
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	4.6	< 1.0	< 1.0	22	14	2.3	6.8	250
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	45	< 1.0	< 1.0	130	120	15	52	440
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	4.7	< 1.0	< 1.0	18	17	1.9	6.2	63
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	99	< 5.0	< 5.0	360	260	43	120	1800
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: Marayat Walk

Client: Terra Firma (Wales) Ltd	Chemtest Job No.: 20-23425											
Quotation No.: Q18-15369	Chemtest Sample ID.: 1058241											
	Client Sample ID.:		TP01	TP02	TP03	TP04	TP04	TP05	TP06	TP07		
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL		
	Top Depth (m):		1.60	0.80	0.40	0.70	2.00	1.60	1.50	0.70		
	Date Sampled:		28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020	28-Aug-2020		
	Time Sampled:		0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00		
	Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM		
Determinand	Accred.	SOP	Units	LOD								
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	3.6	< 1.0	< 1.0	15	8.9	1.9	4.1	36
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	6.6	< 1.0	< 1.0	40	17	3.5	8.4	63
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	12	< 1.0	< 1.0	65	29	6.1	14	160
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	16	< 1.0	< 1.0	180	50	7.9	19	790
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	150	< 1.0	< 1.0	1100	430	77	180	3600
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	8.9	< 1.0	< 1.0	64	32	4.3	10	270
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	190	< 5.0	< 5.0	1400	570	100	230	4900
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	290	< 10	< 10	1800	830	140	350	6700
Naphthalene	M	2700	mg/kg	0.10	1.1	< 0.10	< 0.10	1.4	0.82	1.2	1.9	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	0.28	< 0.10	< 0.10	1.6	0.46	1.1	0.49	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	1.4	< 0.10	< 0.10	1.2	1.5	2.2	3.1	< 0.10
Fluorene	M	2700	mg/kg	0.10	2.0	< 0.10	< 0.10	1.8	1.3	2.3	3.7	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	3.2	0.34	< 0.10	15	5.3	9.6	9.6	3.1
Anthracene	M	2700	mg/kg	0.10	1.1	0.10	< 0.10	4.5	1.2	3.4	3.0	0.76
Fluoranthene	M	2700	mg/kg	0.10	5.8	0.99	0.25	27	7.4	23	11	6.1
Pyrene	M	2700	mg/kg	0.10	5.4	0.95	0.33	24	6.3	21	9.3	6.1
Benzo[a]anthracene	M	2700	mg/kg	0.10	3.6	0.57	< 0.10	15	3.6	15	5.6	4.1
Chrysene	M	2700	mg/kg	0.10	3.9	0.70	< 0.10	15	5.1	16	5.4	4.2
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	5.1	0.86	< 0.10	21	5.2	22	7.3	6.3
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	1.8	0.24	< 0.10	7.4	1.8	7.5	2.6	2.1
Benzo[a]pyrene	M	2700	mg/kg	0.10	3.5	0.61	< 0.10	13	3.3	14	5.0	4.4
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	2.5	0.45	< 0.10	9.7	2.9	10	3.5	3.2
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	1.1	0.11	< 0.10	3.2	1.1	3.6	1.4	1.1
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	3.0	0.65	< 0.10	8.2	3.7	9.6	3.8	3.3
Total Of 16 PAH's	M	2700	mg/kg	2.0	45	6.6	< 2.0	170	51	160	77	45
Total PCBs (7 congeners)	N	2815	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Organic Matter BS1377	N	2930	%	0.10	1.6	0.90	0.20	2.9	4.6	3.1	3.2	3.8

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1058245		TP04		28-Aug-2020	B	Amber Glass 250ml
1058245		TP04		28-Aug-2020	B	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
2930	Organic Matter	Organic Matter	Acid Dichromate digestion/Titration

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.:	20-23443-1		
Initial Date of Issue:	08-Sep-2020		
Client	Terra Firma (Wales) Ltd		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	Alan Beattie		
Project	Marayat Walk		
Quotation No.:	Q18-15369	Date Received:	03-Sep-2020
Order No.:	16204AB	Date Instructed:	03-Sep-2020
No. of Samples:	1		
Turnaround (Wkdays):	5	Results Due:	09-Sep-2020
Date Approved:	08-Sep-2020		

Approved By:

Details: Glynn Harvey, Technical Manager

Bulk Identification Certificate

Client: Terra Firma (Wales) Ltd
Site Address:
Date Sampled: 28-Aug-2020
Date Received: 03-Sep-2020

Your Ref.:
Project: Marayat Walk
Job Number: 20-23443
No Samples:
Date Reported: 08-Sep-2020

Sample No.	Sample ID	Sample Ref.	Description	Top (m)	Bottom (m)	SOP	Accred.	Laboratory	Material	Result
1058294	TP04			2.00		2185	U	DURHAM	Cement	Chrysotile

The in-house procedure SOP2185 is in accordance with the requirements of Appendix 2 of the Analyst Guide (HSG 248).

The results relate only to items tested as supplied by the client.

Comments and interpretations are beyond the scope of UKAS accreditation.

Samples associated with asbestos in building surveys are retained for six months (HSG 264 refers)

Test Methods

SOP	Title	Parameters included	Method summary
2185	Asbestos	Asbestos	Polarised light microscopy
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

ANNEX F
Soil Plasticity Test Results

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS EN ISO 17892-12:2018 Clauses 5.3/5.5/6.5

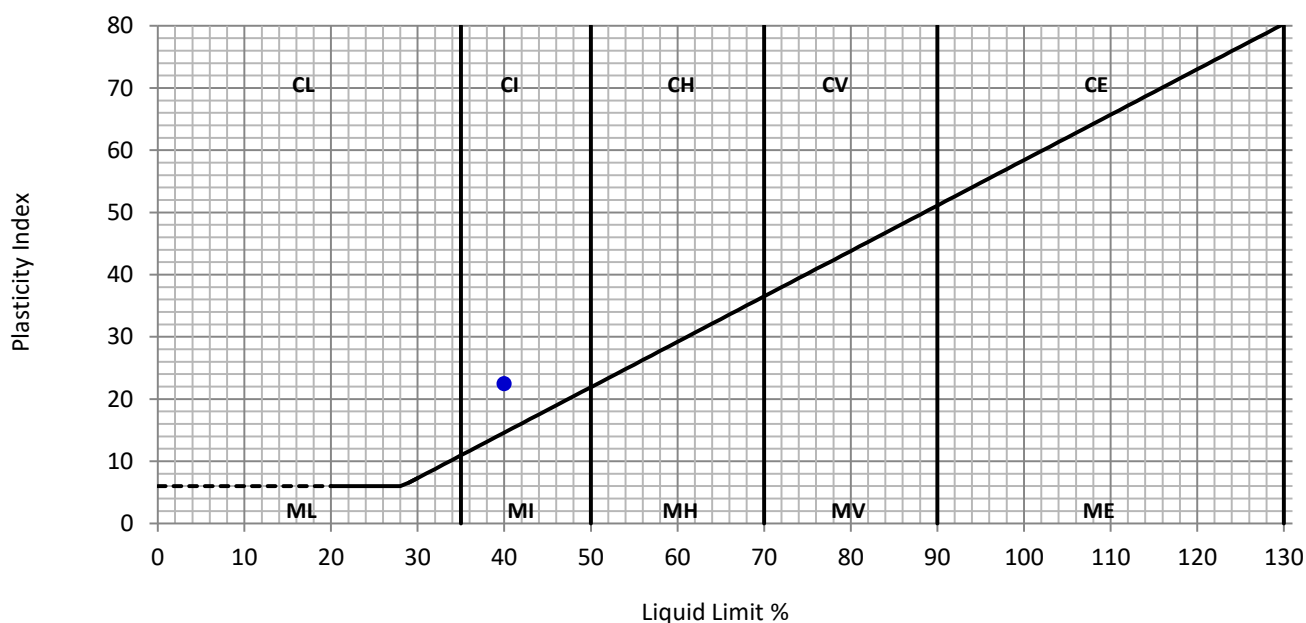
Project No: D20306 Project Name: Maragat Walk ATS Sample No: 21516	Client: Terra Firma Address: Deryn Court 5 Wharfdale Road Cardiff CF23 7HA
---	--

Site Ref / Hole ID: TP05 Sample No: Sampling Certificate Received: No Location in Works: N/A Date Sampled: Unknown Sampled By: Client Date Received: 02 September 2020	Depth (m): 1.00 Sample Type: Disturbed Material Description: Brown slightly gravelly CLAY Material Source: Unknown Material Supplier: Unknown Specification: ISO 17892 Date Tested: 07 September 2020
---	--

Test Results

Liquid Limit	40	%
Plastic Limit	18	%
Plasticity Index	22	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	29 %



Remarks:

QA Ref.

EN ISO
17892-
12:2018:E



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



7771

Approver

L DAVIS

L Davis, Quality Manager

Date

08/09/2020

Fig.

ATT

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS EN ISO 17892-12:2018 Clauses 5.3/5.5/6.5

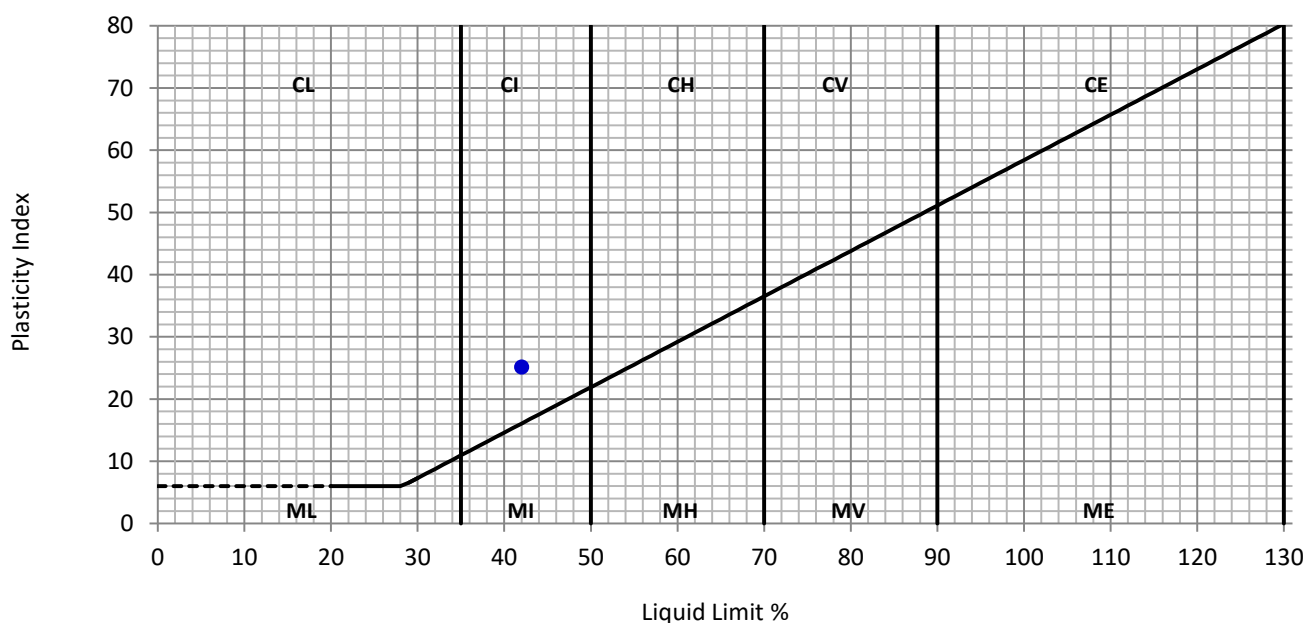
Project No: D20306 Project Name: Maragat Walk ATS Sample No: 21517	Client: Terra Firma Address: Deryn Court 5 Wharfdale Road Cardiff CF23 7HA
---	--

Site Ref / Hole ID: TP07 Sample No: Sampling Certificate Received: No Location in Works: N/A Date Sampled: Unknown Sampled By: Client Date Received: 02 September 2020	Depth (m): 2.00 Sample Type: Disturbed Material Description: Brown slightly gravelly CLAY Material Source: Unknown Material Supplier: Unknown Specification: ISO 17892 Date Tested: 07 September 2020
---	--

Test Results

Liquid Limit	42	%
Plastic Limit	17	%
Plasticity Index	25	%

Preparation:	4.2.4 Sieved Specimen
Proportion retained on 425µm sieve:	17 %



Remarks:

ANNEX G
Soakaway Calculation Sheets

SOAKAWAY CALCULATION SHEET

Job Name: Marayat Walk, Newport

Job Number: 16204

Date of Test: 28.08.2020

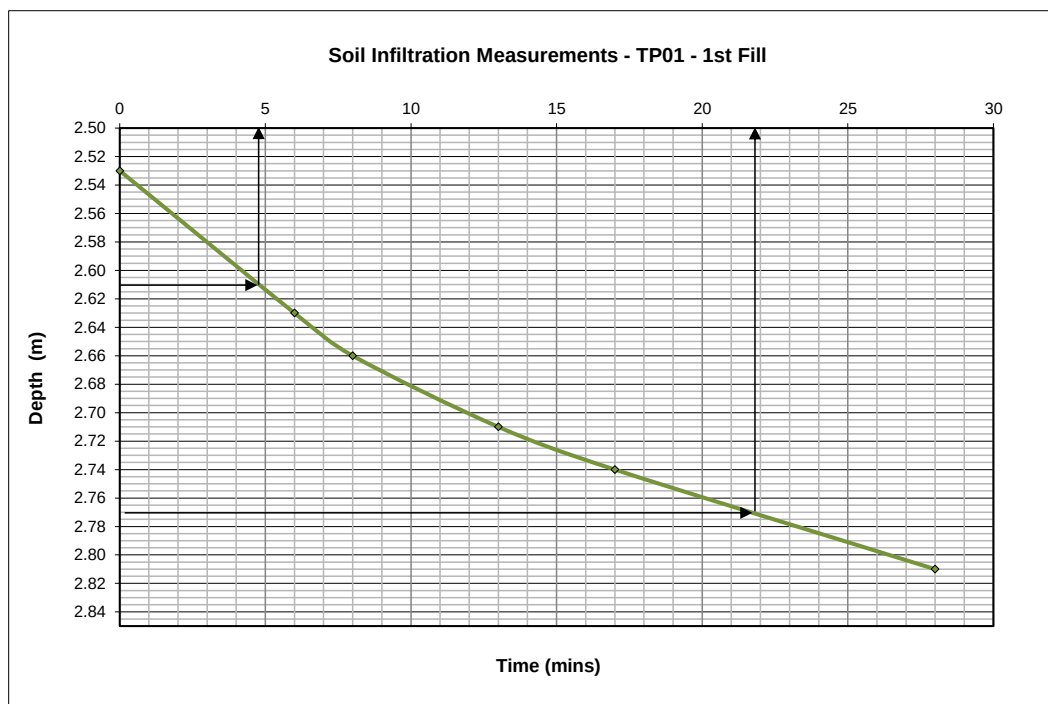
Test No.: TP01 - 1st Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	2.53	0
	2.63	6
	2.66	8
	2.71	13
	2.74	17
(effective depth - 0%)	2.81	28

Length of Trial Pit (m)	1.60
Width of Trial Pit (m)	0.60
Depth of Trial Pit (m)	2.85
Effective Storage Depth (m)	0.32
Vp25	2.6100
Vp75	2.7700
Vp75-25	0.154
Outflow (%)	88

50% effective depth (m)	0.160
Mean Surface area ap50 (m2)	1.664

Time for 25% Outflow (tp25)	5	From Graph
Time for 75% Outflow (tp75)	22	From Graph
tp75 - 25	17	
Soil Infiltration Rate (m/s)	9.04977E-05	



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.
This worksheet can be used to determine soil infiltration rates from trial pit field measurements.
Worksheet options are identified by a green background.

SOAKAWAY CALCULATION SHEET

Job Name: Marayat Walk, Newport

Job Number: 16204

Date of Test: 28.08.2020

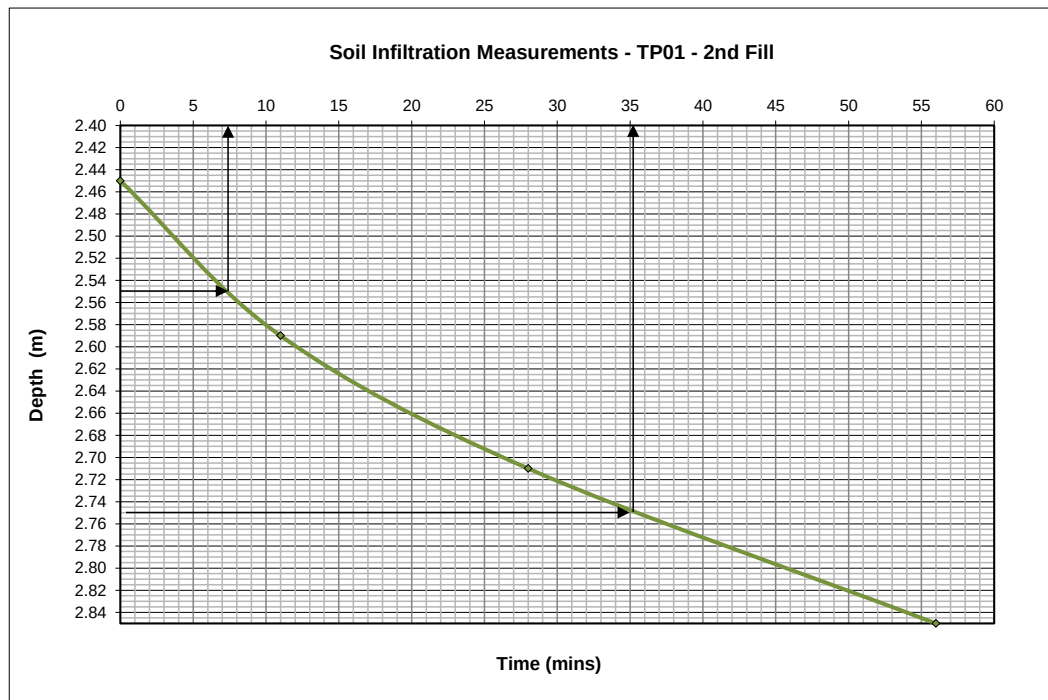
Test No.: TP01 - 2nd Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	2.45	0
	2.59	11
	2.71	28
(effective depth - 0%)	2.85	56

Length of Trial Pit (m)	1.60
Width of Trial Pit (m)	0.60
Depth of Trial Pit (m)	2.85
Effective Storage Depth (m)	0.40
Vp25	2.5500
Vp75	2.7500
Vp75-25	0.192
Outflow (%)	100

50% effective depth (m)	0.200
Mean Surface area ap50 (m2)	1.840

Time for 25% Outflow (tp25)	7	From Graph
Time for 75% Outflow (tp75)	36	From Graph
tp75 - 25	29	
Soil Infiltration Rate (m/s)	5.997E-05	



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.
This worksheet can be used to determine soil infiltration rates from trial pit field measurements.
Worksheet options are identified by a green background.

SOAKAWAY CALCULATION SHEET

Job Name: Bulford Road, Tiers Cross

Job Number: 16253

Date of Test: 09.09.2020

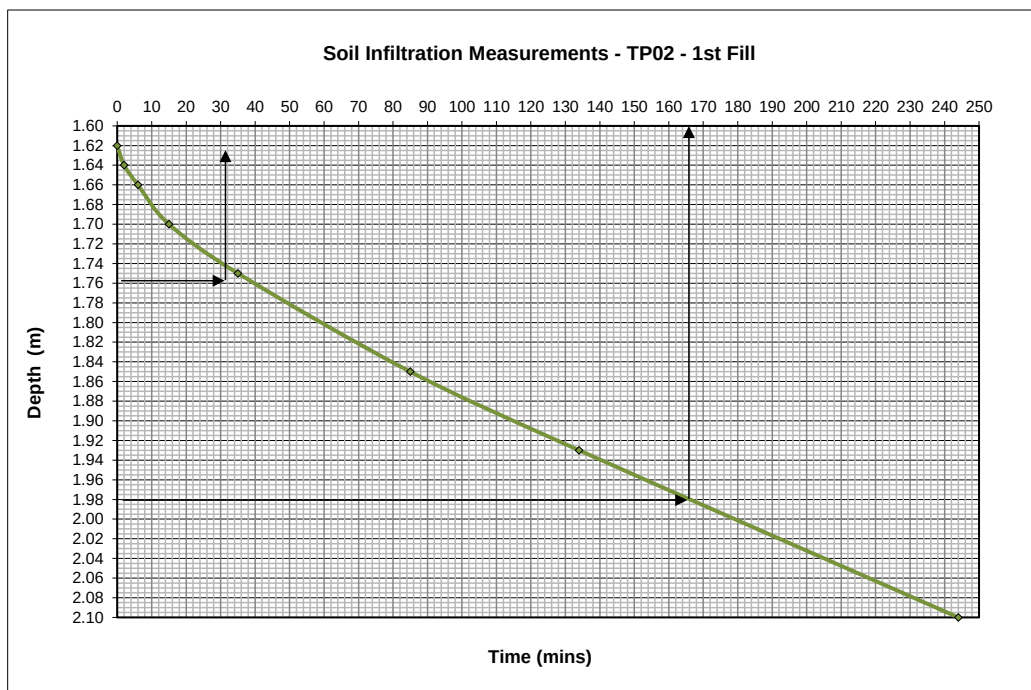
Test No.: TP02 - 1st Fill

	Depth to Water (m)	Time (Mins)	
(effective depth - 100%)	1.62	0	Field Observations
	1.64	2	
	1.66	6	
	1.70	15	
	1.75	35	
	1.85	85	
	1.93	134	
(effective depth - 0%)	2.10	244	Extrapolated Data

Length of Trial Pit (m)	1.50
Width of Trial Pit (m)	0.60
Depth of Trial Pit (m)	2.10
Effective Storage Depth (m)	0.48
Vp25	1.7400
Vp75	1.9800
Vp75-25	0.216
Outflow (%)	65

50% effective depth (m)	0.240
Mean Surface area ap50 (m2)	1.908

Time for 25% Outflow (tp25)	30	From Graph
Time for 75% Outflow (tp75)	166	From Graph
tp75 - 25	136	
Soil Infiltration Rate (m/s)	1.38735E-05	



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.
This worksheet can be used to determine soil infiltration rates from trial pit field measurements.
Worksheet options are identified by a green background.

SOAKAWAY CALCULATION SHEET

Job Name: Marayat Walk, Newport

Job Number: 16204

Date of Test: 28.08.2020

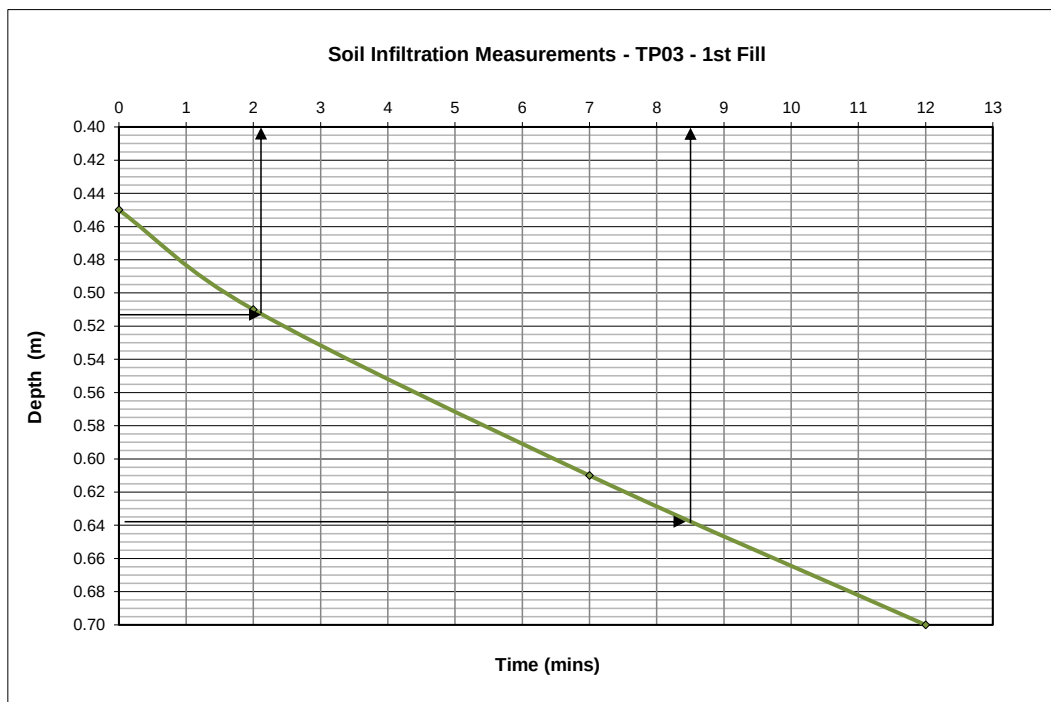
Test No.: TP03 - 1st Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.45	0
	0.51	2
	0.61	7
(effective depth - 0%)	0.70	12

Length of Trial Pit (m)	1.50
Width of Trial Pit (m)	0.60
Depth of Trial Pit (m)	0.70
Effective Storage Depth (m)	0.25
Vp25	0.5125
Vp75	0.6375
Vp75-25	0.113
Outflow (%)	100

50% effective depth (m)	0.125
Mean Surface area ap50 (m2)	1.425

Time for 25% Outflow (tp25)	2	From Graph
Time for 75% Outflow (tp75)	9	From Graph
tp75 - 25	7	
Soil Infiltration Rate (m/s)	0.00018797	



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.
This worksheet can be used to determine soil infiltration rates from trial pit field measurements.
Worksheet options are identified by a green background.

SOAKAWAY CALCULATION SHEET

Job Name: Marayat Walk, Newport

Job Number: 16204

Date of Test: 28.08.2020

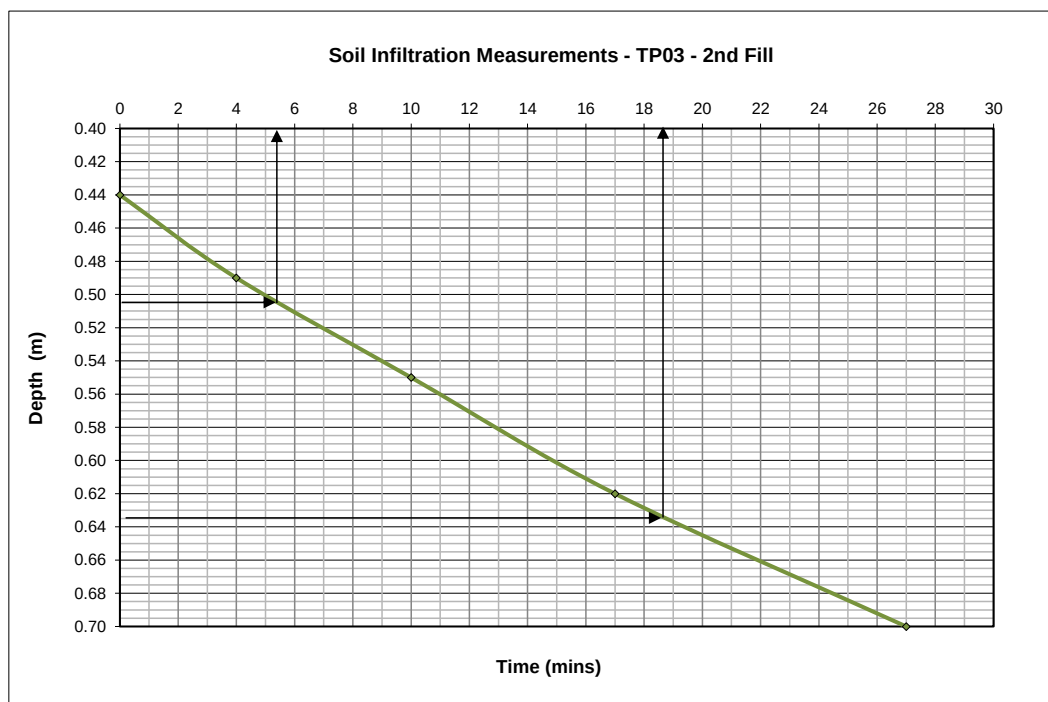
Test No.: TP03 - 2nd Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.44	0
	0.49	4
	0.55	10
	0.62	17
(effective depth - 0%)	0.70	27

Length of Trial Pit (m)	1.50
Width of Trial Pit (m)	0.60
Depth of Trial Pit (m)	0.70
Effective Storage Depth (m)	0.26
Vp25	0.5050
Vp75	0.6350
Vp75-25	0.117
Outflow (%)	100

50% effective depth (m)	0.130
Mean Surface area ap50 (m2)	1.446

Time for 25% Outflow (tp25)	5	From Graph
Time for 75% Outflow (tp75)	19	From Graph
tp75 - 25	14	
Soil Infiltration Rate (m/s)	9.63248E-05	



Soil Infiltration Worksheet:

This worksheet has been produced in combination with the document 'BRE Digest 365'.
This worksheet can be used to determine soil infiltration rates from trial pit field measurements.
Worksheet options are identified by a green background.

SOAKAWAY CALCULATION SHEET

Job Name: Marayat Walk, Newport

Job Number: 16204

Date of Test: 28.08.2020

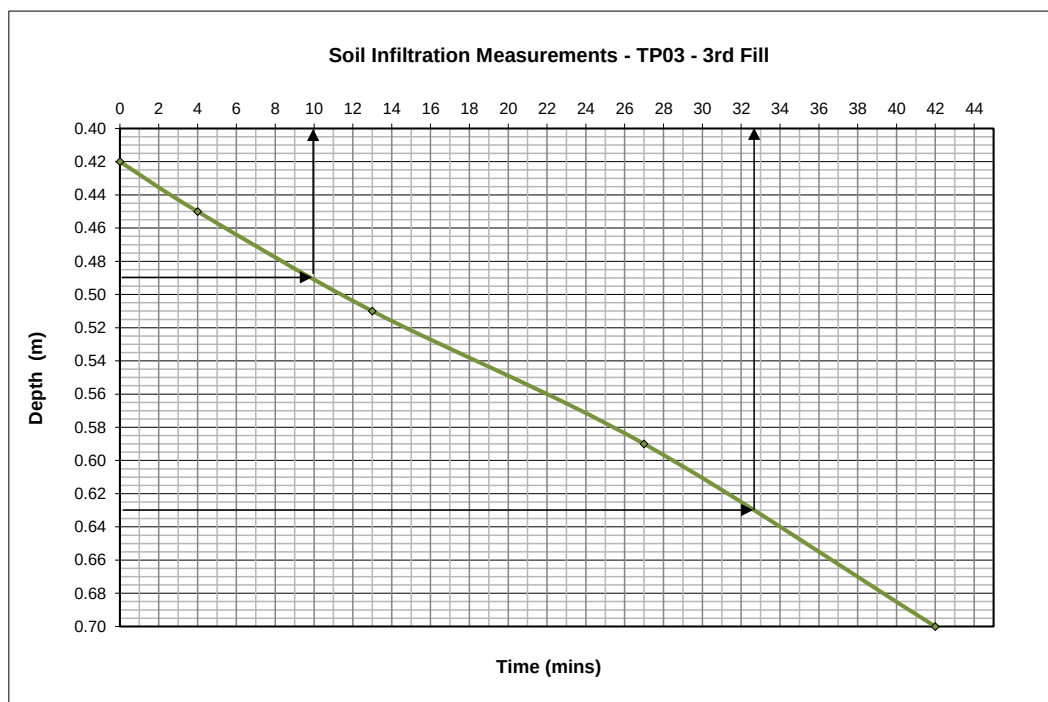
Test No.: TP03 - 3rd Fill

	Depth to Water (m)	Time (Mins)
(effective depth - 100%)	0.42	0
	0.45	4
	0.51	13
	0.59	27
(effective depth - 0%)	0.70	42

Length of Trial Pit (m)	1.50
Width of Trial Pit (m)	0.60
Depth of Trial Pit (m)	0.70
Effective Storage Depth (m)	0.28
Vp25	0.4900
Vp75	0.6300
Vp75-25	0.126
Outflow (%)	100

50% effective depth (m)	0.140
Mean Surface area ap50 (m2)	1.488

Time for 25% Outflow (tp25)	10	From Graph
Time for 75% Outflow (tp75)	33	From Graph
tp75 - 25	23	
Soil Infiltration Rate (m/s)	6.13604E-05	



Soil Infiltration Worksheet: This worksheet has been produced in combination with the document 'BRE Digest 365'. This worksheet can be used to determine soil infiltration rates from trial pit field measurements. Worksheet options are identified by a green background.

DRAWINGS



Job Number:

16204

Job Title:

Marayat Walk, Newport

Drawing Title:

Site Layout

Drawing Number:

01

Scale:

Not To Scale

Legend:



TP01 Approximate position of machine excavated trial pit





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